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Parental Expectations, Gender, and Ethnicity: Predictors of College Readiness

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In recent years, there has been a growing concern regarding students' academic readiness for college. Currently, four-year colleges in the United States have a first-year attrition rate of approximately 30% (Aud, Hussar, & Grace, 2012). Further, a mere 57% of students in four-year college programs complete a bachelor's degree within six years, while only 31% of students graduate from two-year programs. Remedial courses are required for nearly 20% of students who enter four-year colleges, and more than 50% of those entering two-year programs (Complete College America, 2012). The current findings indicate that not all students who enter college are prepared to undertake the academic demands required for collegiate success. Thus, identifying the best predictors of academic performance and college readiness is crucial for promoting success in postsecondary institutions.

Numerous studies have identified that parental and family involvement is a predictor of child academic success. Specifically, parental involvement has been positively linked to higher academic achievement, regular class attendance, willingness to undertake academic work, higher academic grades, and student aspirations for postsecondary education (Greenwood & Hickman, 1991).
Prior research shows that factors such as students' perception of parental involvement in academic career, highest level of parental education, and parental beliefs regarding the student's success is associated with higher likelihood of pursuing higher education, as well as better performance on college readiness tests (Rumberger, 1995; Stage & Hossler, 1989; Eccles, Vida & Barber, 2004). Parental involvement positively contributes to students' academic endeavors and is

strongly associated with school completion; children whose parents had low academic expectations for them were more than five times as likely to quit school (Rumberger, 1995). While there is a general student benefit from parental involvement, minority and/or low income students appear to benefit most, as evidenced by high parental involvement and increased rates of admission to postsecondary institutions (Wadenya & Lopez, 2008). Parental involvement appeared to be an important factor in academic success particularly for minority students.

Barriers to academic achievement exist despite protective factors like parental involvement. Student perceptions of barriers related to minority status and gender are associated with the decision to enroll in higher education as well as performance on college readiness tests (Nieman, Romero & Arbana, 2000; Phinney, Dennis & Osorio, 2006). Although gender differences in college enrollment and degree attainment are evident within most ethnic groups in America, the gender gap is most prevalent in low-income and ethnic minority students (American Council on Education Center for Policy Analysis, 2003). Females may anticipate more barriers to entering college than males (McWhirter, 1997). However, some improvement in the college enrollment gender gap has been noted with an observed increase in rates of female college enrollment (King, 2000).

According to the U.S. Department of Education (2012), a majority of enrolled college students in 2010 consisted of 61% Caucasians, followed by 14% African American, 13% Hispanic students, and 6% Asian/Pacific Islander students.
These estimates suggest that minority students are less likely to attend postsecondary institutions than Caucasian students. Ethnic differences in measures of college readiness can be attributed to minority students' perceptions of certain factors such as social class, generation of immigration, perceived discrimination, and cultural factors. Freeman's (1997) research on perceptions of college choice in African American students revealed that these students perceive many obstacles to enrolling in college, including a lack of information, costs, and feelings of intimidation. There may also be clear gender differences in college readiness and enrollment; as such, some students may benefit more than others from educational programs and school curricula that focus on increasing and developing college readiness skills. This information can be used to create customized programs aimed at developing college readiness skills in specific groups of students (e.g., minority males or low income females). These customized programs might be able to reduce the gaps and disparity in college readiness.

Postsecondary education is most effective when students have the academic skills required to succeed. Obtaining the skills related to college readiness is not only important for those students who aspire to attend postsecondary school, but also for those who choose to enter the workforce after high school, as many still require the skills equivalent to those needed for college. Therefore, it is important to ascertain factors associated with college readiness so programs can be developed that target those most in need of help of furthering their college readiness skills.

The present cross-sectional study is designed to determine the factors related to academic performance and college readiness. As such, the study examined the association between ethnicity and gender

on high school students' (1) high school grade level competence in reading, writing, and mathematics, and (2) a college readiness test. In addition, we determined whether the following parental factors were associated with students' perceptions of attending college and performance on a college readiness test: (1) parents' highest level of education, (2) parents' perceptions of students' level of education, and (3) parents' perceived reasons of why students might not pursue higher education.

Method

Participants

A total of 2,184 high school students from three different high schools (50.9% males, 49.1% females) were part of a college readiness program held at a major state university in Southern California. The students were recruited for study participation while they attended the sixth grade (2006), and follow up surveys were conducted until they reached the eleventh grade (2011). The Institutional Review Board of the university approved the analysis of the de-identified data that had been collected and maintained.

The inclusion criteria for the current study consisted of students and parents completing demographic questionnaires (i.e., age, gender, and ethnicity) along with items that assessed their views of higher education. Participants with missing variables of interest were removed from the study; therefore, listwise deletion was employed. All variables of interest were collected in 2011.

Measures

Student and Parent Surveys. The paper-and-pencil parent and student surveys were developed for the purpose of this study. The student survey was administered in English during school. It was used to obtain student demographic information and students' perceived parental expectation of higher education (i.e., "*How much education do you think your parents or guardian want you to get?"*) and highest education level expected (i.e., "*What is the highest level of education that you expect to obtain?"*). A separate survey was created to assess parents' demographic background (i.e., *"What is the highest level of education that you completed?"*), and their expectations for students' highest education level (i.e., *"What is the highest level of education that you expect your child to obtain?"*). The parent survey was conducted either in English or Spanish through telephone interviews.

The response choices for both student and parent survey items consisted of the following: *"High School or Less," "Some College but less than a 4-year degree," "4-Year College," and "Above a 4-year college*." In addition, a final parent survey item assessed for parents' perceived reasons regarding why their child might not pursue higher education (i.e., *"If your child does not continue their education after high school, what would be the main reason?"*). The response choices available for the parent survey item ranged from the following: "*Will continue," "Cost of education," "Child not interested [in higher education]," and "Other.*"

High School Grade Level Competency. The California High School Exit Examination (CAHSEE) is a test administered to students in California that is part of a state requirement to assess grade level competency in English Language Arts and Mathematics (California Department of Education [CDE], 2014). The measures of students' grade level competencies are composed of test scores on the CAHSEE in

English Language Arts (ELA) and Mathematics (Math). The ELA portion of the exam consists of reading and writing sections covering academic material up to the tenth grade level. The Math portion of the exam includes academic material up to Algebra I. Responses on the CAHSEE ELA and Math are in multiple-choice format, with the exception of the ELA writing section. According to the CDE (2014), the passing score for the CAHSEE ELA and Math portion is a scale score of 350 each.

College Readiness. The Preliminary Scholastic Assessment Test (PSAT) is a standardized practice test that consists of questions in the areas of Math, Critical Reading, and Writing Skills that are similarly found on the SAT (College Board, 2014). Responses are provided in multiple-choice format (A to E). Whereas the Math and Critical Reading sections each take up to 50 minutes to complete, the Writing Skills section has a time limit of 30 minutes. The entire PSAT test takes approximately two hours and 10 minutes to complete. The PSAT score ranges from 20 to 80. The PSAT National Merit Selection Index Composite score (ranging from 60 to 240) reflects the total score on students' Critical Reading, Math, and Writing Skills test sections. The current study uses students' PSAT Composite score to assess college readiness.

Statistical Analysis

Frequency analyses were run in order to examine the current sample's demographic information. Chi-square analyses were made in order to determine proportion differences between groups on the student and parent survey items. Independent t-tests were performed in order to explore possible group differences in participants' scores on the CAHSEE and PSAT Composite scores. Lastly, one-way ANOVAs were performed in order to examine possible group differences on the CAHSEE and PSAT Composite scores.

Results

Participant Demographics

A total of 587 students were involved in the study, which consisted of 295 male (50.3%) and 292 female students (49.7%). Analysis of missing data indicated that the current sample of 587 students did not differ from the eligible sample of 2,184 students on any demographic characteristics. However, significant group differences were reported for students who did not provide complete information in comparison to those who were part of the current sample. Specifically, students with missing data were more likely to have significantly lower scores on the CAHSEE ELA (M = 368.07, SD = 37.05) and Math (M = 373.71, SD = 39.09) than students from the current study [CAHSEE ELA (M = 377.04, SD = 32.05); CAHSEE Math (M = 378.34, SD = 33.23)]. No other significant group differences were reported. Ethnicity groups represented in the sample included were predominantly Hispanic (74.3%), followed by African-American (15.2%), Caucasian (6.6%), Asian (3.4%), and Other (0.5%). A demographic summary of the sample can be found in Table 1 along with an overview of students' and parents' responses.

A majority of students (87.4%) indicated that they found education beyond high school as "*Very Important*" to their future, while 12.1% reported that education after high school was "*Somewhat Important*." Most students (46%) also responded that they expect to obtain "*Above a 4-year college degree*," followed by those who expected to attain a "*4-year college degree*" (37.6%).

Table 1

Characteristics of the study sample (N = 587)

	Overall
	(*N* = 587)
Demographic Information	*N* (%)
Gender	
Males	295 (50.3)
Females	292 (49.7)
Ethnicity	
Caucasian	39 (6.6)
Hispanic	436 (74.3)
African-American	89 (15.2)
Asian	20 (3.4)
Other	3 (0.5)
Student Survey Responses	*N* (%)
Importance of Higher Education	
Don't Know	3 (0.5)
Somewhat Important	71 (12.1)
Very Important	513 (87.4)
Highest Education Level Expected	
High School or Less	21 (3.6)
Some College but Less than a 4-Year Degree	75 (12.8)
4-Year Degree	221 (37.6)
Above 4-Year Degree	270 (46)
Parent Survey Responses	*N* (%)
Parent Highest Education Level	
High School or Less	312 (53.2)
Some College but Less than a 4-Year Degree	195 (33.2)
4-Year Degree	53 (9)
Above 4-Year Degree	27 (4.6)
Highest Education Level Expected for Child	
High School or Less	16 (2.7)
Some College but Less than a 4-Year Degree	55 (9.4)
4-Year Degree	214 (36.5)
Above 4-Year Degree	302 (51.4)
Reason for Child Not Seeking Higher Education	
Will Continue	352 (60)
Cost of Education	152 (25.9)
Child Not Interested	40 (6.8)
Other	43 (7.3)

Parents' survey responses showed that a majority indicated their highest level of education was "*High school or less*" (53.2%) and "*Some college but less than a 4-year degree*" (33.2%), followed by a "*4-year college degree*" (9%), and those with "*Above a 4-year college degree*" (4.6%). Most parents reported that they expect their child to obtain "*Above a 4-year college degree*" (51.4%) or a "*4-year college degree*" (36.5%). In addition, a majority of the parents reported that they expect their child to continue his or her education after high school (60%). However, for those who indicated that their child might consider discontinuing education after high school, the reasons indicated were "*Cost of education*" (25.9%), "*Not interested*" (6.8%), or "*Other*" reasons (7.3%).

Association with Student Gender

Chi-square analyses reported significant group differences on the importance of education after high school, χ^2 (2) = 14.67, p < .001, ϕ = .16. Most females (92.5%) and males (82.4%) indicated that higher education was "*Very Important."* Significant differences were also reported on highest level of education expected, χ^2 (3) = 50.09, p < .001, ϕ = .29. Most females (58.6%) expected to obtain "*Above a 4-year college degree*," while most males (41.4%) expected to obtain a "*4-year college degree*." Chi square tests on parent survey responses indicated no significant group differences between genders.

Independent t-tests were performed between genders on the CAHSEE and PSAT (see Table 2). Significant group differences were reported between genders on the CAHSEE ELA, t (565) = -4.40, p < .001. Female students (M = 382.88, SD = 30.41) scored higher on the CAHSEE ELA than males (M = 371.23, SD = 32.57). No significant differences were reported between genders on the CAHSEE Math and PSAT Composite score.

Association with Student Ethnicity

A one-way ANOVA reported significant differences among ethnic groups on the CAHSEE ELA, F (4, 566) = 4.20, p = .002; CAHSEE Math, F (4, 568) = 6.30, p < .001; and the PSAT, F (4,499) = 6.51, p < .001 (see Table 3). Asian students consistently scored the highest on the CAHSEE ELA (M = 396.17, SD = 24.52), CAHSEE Math (M = 402.11, SD = 28.90), and PSAT Composite score (M = 122.68, SD = 20.37) (see Table 3). Bonferroni post-hoc analyses indicated that Asian and Caucasian students scored significantly higher on the CAHSEE ELA, CAHSEE Math, and PSAT Composite score than African-Americans. In addition, Asian students scored significantly higher than Hispanic students on the CAHSEE Math and PSAT Composite score, while Caucasian students scored significantly higher than Hispanic students on the PSAT Composite score.

Chi-square tests indicated several ethnic group differences on student and parent survey responses. Specifically, significant group differences were reported on students' perception of the importance of education after high school, χ^2 (8) = 18.71, p = 0.02, ϕ = .18. While a majority of students from the different ethnic groups considered education after high school "*Very Important*," they did so in varying rates from Caucasians (89.7%), Hispanics (85.1%), African-Americans (96.6%), Asians (90%), and Other (100%). Students also indicated significant ethnic group differences on their expected highest level of education, χ^2 (12) = 21.99, p = 0.04, ϕ = .19. A detailed examination showed that most Caucasian and Asian students expected to have either a "*4-year college degree*" (48.7%; 60%) or "*Above a 4-year*

Table 2

Students' mean test scores and standard deviations by gender

Test Score *M* (*SD*)	Gender			
	Males	Females	*t*	*df*
CAHSEE English Language Arts	371.23 (32.57)	382.88 (30.41)	-4.4***	565
CAHSEE Math	377.7 (36.23)	378.99 (30.01)	-.47	567
PSAT Composite	106.51 (22.77)	109.49 (20.31)	-1.55	498

Note. ***$p < 0.001$.

Table 3

Students' mean test scores and standard deviations by ethnicity

Test Score *M* (*SD*)	Ethnicity						
	Caucasian	Hispanic	African-American	Asian	Other	*F*	η^2
CAHSEE English Language Arts	389.63 (34.28)	376.49 (31.54)	370.07 (32.68)	396.17 (24.52)	376.67 (12.22)	4.2**	0.03
CAHSEE Math	390.51 (35.61)	378.26 (32.84)	367.42 (31.23)	402.11 (28.9)	395.33 (4.16)	6.3***	0.04
PSAT Composite	117.89 (24.84)	107.49 (21.29)	100.96 (18.41)	122.68 (20.37)	119 (17.44)	6.51***	0.05

Note. **$p < 0.01$, ***$p < 0.001$.

Table 4

Students' mean test scores and standard deviations by parental responses

Test Score	Parents' Highest Education Level Expected for Student					
	High School or Less	Some College but Less than a 4-Year Degree	4-Year Degree	Above 4-Year Degree	*F*	η^2
CAHSEE English Language Arts	374.19 (33.73)	363.35 (28.65)	377.04 (31.03)	379.72 (32.02)	4.08**	0.021
CAHSEE Math	368.25 (23.18)	365.15 (31.64)	378.85 (33.57)	380.98 (33.22)	4.02**	0.021
PSAT Composite	100.07 (20.44)	94.89 (19.39)	107.9 (21.62)	110.74 (21.19)	7.86***	0.045

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

college *degree*" (33.3%; 35%) respectively. In comparison, most Hispanic, African-American, and Other ethnicity students expected to have "*Above a 4-year college degree*" (44.5%; 59.6%; 100%) respectively.

Similarly, parent survey responses indicated significant ethnic group differences on parents' highest level of education, χ^2 (12) = 38.40, $p < .001$, $\phi = .26$. The highest education level for parents of Caucasian, African-American, and Other ethnicity students reported "*Some college but less than a 4-year degree*" (43.6%; 29.1%; 100%), followed by "*High school or less*" (41%; 32.6%; 0%). For Hispanic and Asian students, their parents' highest level of education was "*High school or less*" (58.7%; 55%), followed by "*Some college but less than a 4-year degree*" (29.1%; 30%).

Parental Factors on Student Test Scores

One-way ANOVAs were performed to examine the relationship between parental factors (i.e., parents' highest education level, parents' expected highest education level for child, possible reasons for a child not attending higher education) and students' test scores (see Table 4 for means and standard deviations by parental responses). No significant relationship was indicated between parent's highest level of education and students' CAHSEE ELA, CAHSEE Math, or PSAT Composite score. However, significant relationships were reported between parents' expected highest education level for their child and students' test scores on the CAHSEE ELA, F (3, 563) = 4.08, p <.01; CAHSEE Math, F (3, 565) = 4.02, p <.01; PSAT Composite score, F (3, 496) = 7.86, p <.001. Finally, no significant relationships were reported between possible reasons for a child not attending higher education (as indicated by parent report) and student test scores.

Discussion

The present investigation sought to identify factors that would identify academic performance and college readiness in a diverse sample of high school student population. While students performed at similar levels on two of the three college readiness test scores prior to attending college, ethnic differences were observed. Higher scores were found in Caucasian and Asian students compared to Hispanic and African-American students. African American participants scored the lowest in all measures of high school performance and college readiness compared to other ethnic groups. Ethnic differences in test scores highlight the need for greater academic assistance and college preparation courses for specific ethnic minorities. For example, Nieman, Romero, and Arbana (2000) found that Mexican American students who demonstrated strong ethnic loyalty were likely to believe that pursuing higher education may alienate them from their ethnic communities. Addressing these barriers may reduce the disparities in college readiness.

There was a strong relationship between parental expectations and students' academic success. No other parental factors were significantly associated with student test scores (i.e., parents' highest education level, parents' expected highest education level for child, possible reasons for a child not attending higher education). Hoge, Smit, and Crist (1997) identified four components of parental involvement: parental expectations, parental interest, parental involvement in school, and family community. Of the four components, they noted that parental expectations was the most important for academic success.

The findings in this study strengthen the existing literature on parental expectations and academic success. It also has implications on college enrollment and success in higher education. Eccles, Vida, and Barber (2004) found that the value placed on education by a student's mother was a significant predictor of college attendance. This research indicates that parental involvement in students' academic careers does have an impact on decisions made by students to attend college, which is consistent with the findings of our study. A higher level of involvement and value placed on attaining higher education appears to encourage students' academic success, readiness for college, and the decision to enroll in college.

While it is assumed that general higher parental involvement is a key component for students' academic success, it is important to consider the quality of high parental involvement and its impact on the parent-child relationship. Zellman and Waterman (1998) determined that parental expectations may negatively affect students' academic achievement if they are not maintained in the context of positive parenting styles. In addition, neglect, demeaning communication, failure to set boundaries, irrational punishment, and indifference are some of the least helpful forms of parental involvement as reported by their population of sixth, seventh, and eighth grade students (Barge & Loges, 2003). Students' academic success, college readiness, and perceptions of postsecondary education are positively affected by affirmative parental expectations of student ability and success, as well as supportive parental involvement in students' academic endeavors. Perhaps an important component of college readiness should include increasing parental involvement and positive expectations of their children's academic path.

Limitations

One limitation of this study is the relatively high rate of attrition, which led to a smaller final sample size. Many of the participants and their parents did not complete all of the survey items or one or all of the outcomes measures. Although the basic demographic differences were analyzed between those who were included versus those excluded, it was difficult to determine other differences between the two groups. Perhaps the missing data could be attributed to the variance in student and parental involvement in higher education. Further research could help identify these differences and develop an intervention that can ameliorate the aforementioned disparities in the pursuit of higher education and college readiness.

Strengths and Implications

An ethnographic study was conducted within a school that reported a high percentage of Hispanic students who were ready for and planned to attend college (Abi-Nader, 1990). The results of the study showed that the following characteristics were important for creating a college-going school culture: "(1) creating a vision of the future; (2) redefining image of self; and (3) building a supportive community" (Abi-Nader, 1990, p. 41). This study found that there were specific cultural instructional practices that supported student success and achievement. Similar studies (i.e., the examination of schools that have cultivated college-going readiness among groups traditionally under-represented in college) are imperative in order for these practices to be replicated and explored further for their impact on college-readiness.

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