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School Counselors as Social Capital: The Effects of High School College Counseling on College Application Rates

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Using social capital theory as a framework, the authors examined data from the Educational Longitudinal Study of 2002 (Ingels, Pratt, Rogers, Siegel, & Stutts, 2004) to investigate how student contact with high school counselors about college information and other college-related variables influence students' college application rates. In addition to some college-related variables, the number of school counselors and student contacts were significant predictors of college application rates. Implications for school counselors and counselor training are included.

School counselors play a vital role in college counseling (McDonough, 2005a, 2005b; Trusty & Niles, 2003). Student access to school counselors is a critical link in the college counseling process that includes information, choice, application, and enrollment (Hawkins & Clinedinst, 2007; McDonough, 2005a). Although college counseling has not been the focus of school counselor training and practice, school counselors have been identified, and at times criticized, for their gatekeeping tendencies and disparities in the college access services they render to different groups of students. Specifically, a growing body of research indicates that high school counselors have tremendous influence on the college plans of Black and Latino students; however, these students are least likely to have school counselors, more likely to have less well-trained counselors, and most likely to have counselors who are forced to give up college counseling for other non-counseling-related tasks (McDonough, 2005b; Plank & Jordan, 2001). In addition, the work of Corwin, Venegas, Oliverez, and Colyar (2004) suggests that counselors in schools serving more Black students (a) have higher student–counselor ratios, (b) receive fewer resources toward college planning and preparation, and (c) operate under a limited schoolwide emphasis on college access.

Numerous studies have indicated that a wide range of student and school factors influence the college choice process (Cabrera & La Nasa, 2001). These college-related factors are school size and level of poverty; students' race, ethnicity, gender, socioeconomic status (SES), academic achievement, and postsecondary aspirations; and parents' school involvement and postsecondary expectations for their children (Bozick & DeLuca, 2005; Cabrera & La Nasa, 2000, 2001; McDonough, 2005b; Perna, 2000; Perna et al., 2008). Although there has been much written about the influence of school counselors on the college choice process, there is limited empirical evidence with large samples of students that illustrates the effect of student–counselor contact on college application rates when other college-related variables are considered. Much of the research concerning high school precollege counseling emphasizes counselors in college preparatory schools serving White and more affluent populations where counselors devote a substantial amount of time to college preparation activities (e.g., Powell, 1996). Less has been written about the effects of college counseling in public schools where poor and minority students are more likely to be served. To examine this issue more closely, our study used school-based social capital theory as a guide in the examination of high school seniors' college application rates.

Conceptual Framework: School-Based Social Capital Theory

The concept of social capital essentially refers to the resources that flow through relationship ties (Coleman, 1988). Such ties can be viewed on the microlevel in terms of personal relationships (e.g., relationships with family members, teachers, and counselors) or the macrolevel in terms of social networks or institutions (e.g., churches, schools, community organizations). Three general types of resources that can flow through these ties to enhance individual functioning are information, norms, and support (Coleman, 1988). Families are typically perceived as a primary source of social capital for students, especially in relation to their education (Hetherington, 1998). However, school is the dominant extrafamilial institution in the life of K–12 students and thus a primary source of social capital. School-based social capital (Lin, 2001) encompasses the social relations or social networks in schools that can be used to improve one's life outcomes. Social capital related to processes such as college application may amass directly to students or may accrue to students through their parents'

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contact and relationships with school personnel (e.g., teachers, school counselors; Kim & Schneider, 2005). In general, research supports the fact that parental involvement in school contributes to increased college aspirations and enrollment among students (e.g., Cabrera & La Nasa, 2000; Perna & Titus, 2005; Tierney, 2002). In particular, Stanton-Salazar and Dornbusch (1995) emphasized the role of the school counselor as a social resource for low-income families. As students of low-income families progress through their schooling, their parents may become increasingly limited in their own capacities to provide technical, psychological, cognitive, and informational assistance. Academic help, good guidance about school programs, and school counselor assistance with the college admissions process can provide the strong network and social capital that can compensate for family networks when students' parents have limited resources. Furthermore, when referring to college information, adults in the school may provide the only source of social capital for low-income students and students of color who are first-generation college students (Cabrera & La Nasa, 2001; Harris, Duncan, & Boisjoly, 2002). Indeed, guidance and assistance from school personnel are significant sources of social capital for students (Croninger & Lee, 2001). Therefore, in this study, we operationalized students' contact with the school counselor for college support as a source of school-based social capital.

Purpose of the Study

Using social capital theory as a framework, we examined data from the Educational Longitudinal Study of 2002 (ELS: 2002; Ingels, Pratt, Rogers, Siegel, & Stutts, 2004) to investigate the effects of students' contact with school counselors for college information. In particular, we wanted to know whether students' contact with school counselors for college information serves as a source of social capital for students in the college application process. The findings of this study may prove significant in that they will help clarify the role of high school counselors and add much-needed empirical data on the relation of student–counselor contact and a key element of the college choice process, college application submission. Moreover, this study may add to the body of research examining accountability in strategic interventions and school counseling programming as supported by the ASCA National Model (American School Counselor Association, 2003). In this study, the variable students' contact with school counselors for college information is referred to alternately as student–counselor contact for college information, student–counselor contact, or when students saw the counselor for college information.

Method

Participants

The sample for our study was selected from the ELS: 2002 (Ingels et al., 2004), a longitudinal study that follows a national sample of high school 10th graders biennially beginning in 2002. The ELS: 2002 allows researchers to study critical transitions that take place as students progress through high school into postsecondary education and into the world of work (Ingels et al., 2004). The analytic sample comprised 4,835 high school seniors (weighted sample = 1,048,435 students) who had data on all of the key variables. Our sample is nationally representative of high school seniors who attended U.S. public high schools. Of the high school seniors, 54.3% were female and 45.7% were male; 3.7% were Asian/Pacific Islanders, 9.4% were Black or African American, 12.6% were Hispanic, and 74.3% were White students. Native American and multiracial students were excluded from the study because of their small sample sizes. Approximately 15.5% of seniors were in the low SES quartile, 23.9% in the lower middle SES quartile, 30.3% in the upper middle SES quartile, and 30.3% in the high SES quartile. Over 14.5% of the students reported that they had no contact with the school counselor for college information, whereas 44.9% reported that they had contact with the school counselor for college information by the 10th grade and 40.6% after the 10th grade. Of the 4,835 students, 22.8% applied to no schools, 23.9% applied to one school, and 53.3% applied to two or more schools.

Dependent and Independent Variables

All variables were selected from the ELS: 2002 (Ingels et al., 2004) database using the electronic codebook. The dependent variable, applying to college, measured the number of schools that students reported applying to for postsecondary education on a 3-point categorical scale (0 = *applied to none*, 1 = *applied to one school*, 2 = *applied to two or more schools*). The variable was measured in 2004 in the first follow-up study when students were in the 12th grade.

The independent variables in the analyses are organized into counselor and college-related variables. All of the independent variables were measured during the base year, 2002, when students were 10th graders.

Counselor Variables

The counselor variables, student–counselor contact for college information and number of school counselors, were the primary independent variables in the model.

Student–counselor contact for college information. Student–counselor contact for college information is a student self-report measure of whether students saw the counselor for college information. The variable is derived from two dichotomous (No, Yes) variables: One measured whether 10th graders had ever gone to the school counselor for college information, and the other measured whether 12th graders had ever gone to the school counselor for college information. We combined the aforementioned variables to create the dependent variable composed of three categories: student–counselor contact by or in 10th grade, student–counselor contact after 10th grade, and no counselor contact for college information.

Number of school counselors. Number of school counselors was a continuous variable with scores ranging from 0 to 16 and a mean of 4.23 school counselors. The inclusion of school size in the analysis allowed us to assess the influence of student–counselor ratios in the college application process (Hawkins & Clinedinst, 2007; McDonough 2005a).

College-Related Variables

Student variables. The student variables in this study were gender, race/ethnicity, student postsecondary aspirations, mother's postsecondary expectations, SES, academic achievement, and parental involvement. Gender was dichotomous (male, female), and race/ethnicity comprised four categories (Asian/Pacific Islander, Black or African American, Hispanic, and White). We did not include Native American and multiracial students in the study because of their small numbers in the sample.

Student postsecondary aspirations, which measured how far in school the student thinks he or she will get, was coded into four categories (*don't know, some college, bachelor's,* and *graduate/advanced degree*). The categories of *high school completion only* and *no postsecondary education* were excluded because no students in the sample selected these. Mother's postsecondary expectations measured how far a mother believes her 10th grader will go in school and was coded into five categories (*don't know, no postsecondary education, some college* [2 years or 4 years], *bachelor's degree*, and *graduate/advanced degree*). We included mother's expectations and excluded father's expectations because of the high correlation ($r = .69, p = .000$) between mother's and father's expectations. Household SES, an ordinal categorical variable created by the National Center for Education Statistics, was coded into quartiles (low SES, lower middle SES, upper middle SES, high SES). Academic achievement was a composite of 10th grade math and reading standardized achievement scores created by the National Center for Education Statistics. Achievement scores are T scores with a national mean of 50 and a standard deviation of 10. We restandardized academic achievement (with $M = 0$ and $SD = 1$) for use in the analyses. The mean academic achievement for the sample was .33.

Previous research has suggested the importance of parent involvement as a meaningful variable in college access studies (Perna & Titus, 2005). Although this investigation focuses on the role of school counselors, it is important to consider the potential role of parent variables in the analyses. For this reason, parental involvement was operationalized using multidimensional composites including (a) parent–school contact about problems and (b) parental involvement in parent–teacher organizations (PTOs) and volunteering. These two composite variables assessed parent–school interactions when students were in 10th grade. Parent–school contact about problems, composed of six items, measured two-way contact between parents and the school about problem performance, poor attendance, and problem behavior (Cronbach's $\alpha = .79$). Parent involvement in PTOs and volunteering was averaged across five dichotomous (No, Yes) items (Cronbach's $\alpha = .72$). We transformed the parent involvement composite variables into *z* scores.

School variables. The school variables in this study were free and reduced lunch and school size. Free and reduced lunch measured percentage of students on free and reduced lunch on a 7-point ordinal scale (0%–5%, 6%–10%, 11%–20%, 21%–30%, 31%–50%, 51%–75%, and 76%–100%). School size was measured on a 9-point ordinal scale (1–399; 400–599; 600–799; 800–999; 1,000–1,199; 1,200–1,599; 1,600–1,999; 2,000–2,499; and 2,500 or more students).

Data Analysis

The ELS: 2002 is a complex multistage study that sampled schools first and then students within schools (Ingels et al., 2004). Furthermore, the study used oversampling to include adequate numbers of minority students. Complex samples produce smaller standard errors than simple random samples, thus leading to increased probability of Type I error. Analyses of complex samples must use procedures or software that take sample design effects into consideration and apply sampling weights to correct for oversampling so as to appropriately adjust standard errors (see Bryan, Day-Vines, Holcomb-McCoy, & Moore-Thomas, 2010). SPSS Complex Samples (Version 17.0) was used to control for the sample design effects and apply the sampling weight. The sampling weight used in this study was the panel weight from the first follow-up study.

Multinomial logistic regression analysis. We used a multinomial logistic regression analysis to investigate the effects of the predictors on each category of the dependent variable compared with the reference category. Ordinarily, researchers use multinomial logistic regression analysis, an extension of logistic regression, when the dependent variable is polytomous, that is, has more than two categories (Menard, 2002). Multinomial logistic regression involves a series of logistic regressions (conducted simultaneously in a single model) in which each category of the dependent variable is compared with a reference or baseline category. Like logistic regression, multinomial logistic regression provides logged odds (*B*) and odds ratios for each independent variable.

In this study, the baseline category or reference is "applied to no schools." More specifically, we compared students who applied to one school with those who applied to none and those who applied to two or more schools with those who applied to none. Dummy (indicator) coding was used for all categorical variables. We controlled for Type I error by using an alpha level of .01.

Post hoc interaction analyses. Evidence of a Student–Counselor Contact × SES interaction and Student–Counselor Contact × Race/Ethnicity interaction led us to create a post hoc model to test these interactions. We created product terms (Student–Counselor Contact × SES, Student–Counselor Contact × Race/Ethnicity) and entered them into the model. Findings demonstrated significant two-way interaction effects. However, elevated standard errors suggested multicollinearity

and the need for further analyses. Therefore, to examine the nature of the interactions, we split the sample into student–counselor contact categories (student–counselor contact by or in 10th grade, student–counselor after 10th grade, and no student–counselor contact) and conducted three multinomial regression analyses, one for each category. We compared the *B* coefficients (logged odds) in each model by using the *Z* test for the equality of regression coefficients, $Z_{\alpha/2} = (B_1 - B_2)/\sqrt{(SEB_1^2 + SEB_2^2)}$ (see Paternoster, Brame, Mazerole, & Piquero, 1998). This allowed us to investigate the varying effects of student–counselor contact by race/ethnicity and by SES. To control for Type I error, we used an alpha level of .01 (two-tailed test) with a *z* critical value of 2.58.

Results

Table 1 presents the full model showing effects of student–counselor contact, number of school counselors, and the college-related variables on applying to one school versus none and two or more schools versus none. We entered the variables in two blocks. The multinomial logistic regression model was significant at the first block comprising only the college-related variables, Wald $\chi^2(38) = 928.13$, $p < .001$, Nagelkerke $R^2 = .20$, and also at the second block when number of school counselors and student–counselor contact for college information were entered, Wald $\chi^2(44) = 1{,}078.59$, $p < .001$, Nagelkerke $R^2 = .23$. Regarding effect size, the college-related variables explained 20% of the variability and the counselor variables explained an additional 3% of the variability in college application rates. This R^2 coefficient is quite high given that in logistic regression models, the R^2 coefficient is often low even when a substantial relationship exists between the dependent and independent variables (Cox & Wermuth, 1992).

Effects of College-Related Variables on Applying to College

Gender, academic achievement, parental involvement, and school size were significant predictors of applying to college (to one school and two or more schools). However, percentages of students on free and reduced lunch as well as some categories of race/ethnicity, SES, student's postsecondary aspirations, and mother's postsecondary expectations for students were significantly related to application to two or more schools only. Overall, female students were more likely to apply to college than were male students. Female students had greater odds of applying to one school and two or more schools versus none. Regarding race/ethnicity, Black and Asian students were more likely to apply to two or more schools than none when compared with White students. However, race/ethnicity was not a significant predictor of applying to one school (vs. none) when compared with White students and students from racial/ethnic minority backgrounds. SES had a negative effect on applying to two or more schools. Students in the three lower SES quartiles (i.e., low SES, lower middle SES, and upper middle SES) were less likely to apply to two or more schools when compared with students in the high SES quartile. SES was not a significant predictor of applying to one school (vs. none) with one exception, that is, when compared with students from lower middle SES and high SES backgrounds.

Some categories of students' postsecondary aspirations and mother's postsecondary expectations for their children were predictors of college application to two or more schools but were not predictors of application to one school (vs. none). More specifically, students who did not know what they wanted to do after high school were less likely to apply to two or more schools compared with students who aspired to earn a bachelor's degree. In contrast, students who wanted to complete a graduate or professional degree were more likely to apply to two or more schools (vs. none) when compared with students who aspired to a bachelor's degree. It is interest-

TABLE 1

Multinomial Logistic Regression Analysis Predicting College Application Rates (*N* = 4,835)

	One School Versus None			Two or More Schools Versus None		
Model	*B*	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio
Intercept	.21	.24	1.23	0.51*	.22	1.66
Student Variables						
Gender[a]						
Female	.49***	.11	1.63	0.42***	.09	1.52
Race/ethnicity[a]						
Asian American	−.35	.20	0.70	0.85**	.28	2.34
Black	−.09	.24	0.91	1.05***	.17	2.87
Hispanic	−.20	.21	0.81	0.18	.17	1.20
Student aspirations[a]						
Don't know	−.45	.18	0.64	−0.36**	.14	0.70
Some college (2–4 year)	−.17	.18	0.84	−0.35	.17	0.71
Graduate or advanced degree	.09	.12	1.09	0.34**	.12	1.41
Mother's expectations[a]						
Don't know	.07	.25	1.07	0.39	.21	1.47
No postsecondary education	.22	.23	1.25	0.67**	.21	1.95
Some college (2–4 year)	.33	.20	1.13	0.19	.20	1.21
Graduate or advanced degree	.17	.13	1.18	0.41***	.12	1.51
Socioeconomic status (SES)[a]						
Low SES	−.25	.19	0.78	−0.77***	.16	0.46
Lower middle SES	−.60***	.17	0.55	−0.94***	.14	0.39
Upper middle SES	−.34	.16	0.71	−0.59***	.14	0.55
Academic achievement[b]	.57***	.08	1.77	0.70***	.08	2.02
Parental involvement[b]						
P–S contact problems	−.30***	.07	0.74	−0.36***	.06	0.70
PTO and volunteering	.18**	.08	1.20	0.32***	.05	1.38
School Variables						
% free or reduced lunch	−.07	.03	0.93	−0.14***	.03	0.87
Size of school	−.15***	.04	0.86	−0.17***	.03	0.85
Counselor Variables						
No. of school counselors	.05	.04	1.06	0.11***	.03	1.11
Counselor contact[a]						
By 10th grade	.77***	.14	2.16	1.25***	.12	3.47
After 10th grade	.70***	.13	2.01	1.01***	.11	2.75

Note. Nagelkerke $R^2 = .23$; Wald $\chi^2(44) = 1{,}078.59$. P–S = parent–school; PTO = parent–teacher organization.

[a]Reference categories in order: male, White, bachelor's degree, bachelor's degree, high SES, and no counselor contact. [b]Standardized variables. *$p < .05$. **$p < .01$. ***$p < .001$.

ing that when compared with students whose mothers expected them to attend college, students whose mothers expected them to complete a graduate or professional degree were more likely to apply to two or more schools (vs. none) than were students whose mothers had no postsecondary education aspirations for them. Furthermore, it was surprising that both students' aspirations and mothers' expectations of some college completion (either 2 or 4 years) was not a predictor of application to college in general.

Academic achievement and parental involvement in PTOs and volunteering gave students a positive advantage in applying to college, with slightly greater effects for applying to two or more schools (vs. none). Students with higher academic achievement and higher parental involvement in PTOs and volunteering were more likely to apply to college in general. In marked contrast, parent–school contact about student problems had a negative effect on applying to college. Overall, students whose parents had contact with the school about academic and behavioral problems were less likely to apply to college.

Regarding school-level variables, school size was a negative predictor of applying to college in general, whereas percentage of students on free and reduced lunch was a negative predictor of applying to two or more schools (vs. none). As school size increases, students are less likely to apply to college; as the percentage of students on free and reduced lunch increases, students are less likely to apply to two or more schools (vs. none).

Effects of Counselor Variables on Applying to College

The number of school counselors had a positive effect on applying to two or more schools but was not a significant predictor of applying to one school (vs. none). Students in schools with higher numbers of school counselors were more likely to apply to two or more schools (vs. none).

Student–counselor contact for college information by 10th grade gave students a positive advantage in the college application process overall. Students who saw the counselor for college information by 10th grade were more likely to apply to college compared with students who did not see the counselor for college information. Those who saw the counselor by 10th grade had twice greater odds of applying to one school (vs. none) and 3.5 times greater odds of applying to two or more schools (vs. none). Student–counselor contact for college information after 10th grade was also a positive predictor of applying to college overall, although students had slightly lower odds of college application than did those who saw the school counselor for college information by 10th grade (see Table 1).

Post Hoc Interaction Analyses

Student–counselor contact for college information had varying effects on college application rates for race/ethnicity and SES (see Table 2).

Race × Student–Counselor Contact for college information. Black students who did not see the counselor at all ($Z_{.005}$ = 2.9072, $p < .01$) had significantly higher odds of applying to one school (vs. none) compared with those who saw the counselor after 10th grade. There were no significant interaction effects for Black students who applied to two or more schools across student–counselor contact categories. Hispanic students who did not see the counselor for college information at all had higher odds of applying to two or more schools compared with Hispanic students who saw the counselor after 10th grade ($Z_{.005}$ = 2.7178, $p < .01$). There were no significant interaction effects for Hispanic students who applied to one school (vs. none) across student–counselor contact categories.

SES × Student–Counselor Contact for college information. Not having student–counselor contact for college information was detrimental for students in the three lower SES quartiles. Low SES, lower middle SES, and upper middle SES students who had no student–counselor contact for college information

TABLE 2

Interaction Effects of Applying to College by Race/Ethnicity Across Counselor Contact Categories (n = 3,409)

	Schools Applied to			
	One Versus None		Two or More Versus None	
Model	*B*	Odds Ratio	*B*	Odds Ratio
Counselor Contact by 10th Grade				
Intercept	1.05	2.87	1.88	6.54
Race/ethnicity				
Asian American	–0.91	0.40	1.02	2.78
Black	0.19	1.21	1.24	3.47
Hispanic	–0.46	0.63	0.01	1.01
Socioeconomic status (SES)				
Low SES	–0.25	0.78	-0.86_a	0.42
Lower middle SES	–0.47	0.63	-0.98_a	0.38
Upper middle SES	–0.53	0.59	-0.73_a	0.48
Counselor Contact After 10th Grade				
Intercept	0.63	1.87	1.29	3.64
Race/ethnicity				
Asian American	–0.31	0.73	0.61	1.83
Black	-0.78_a	0.46	0.89	2.44
Hispanic	0.47_a	1.62	-0.09_a	0.92
SES				
Low SES	0.10	1.10	-0.17_a	0.84
Lower middle SES	–0.43	0.65	-0.42_a	0.66
Upper middle SES	–0.11	0.90	-0.29_a	0.75
No Counselor Contact				
Intercept	0.96	2.61	0.78	2.19
Race/ethnicity				
Asian American	0.17	1.19	0.52	1.67
Black	0.93_b	2.54	1.06_b	2.88
Hispanic	0.54_b	1.72	1.08_b	2.94
SES				
Low SES	–1.09	0.34	-2.38_b	0.09
Lower middle SES	–1.34	0.26	-1.98_b	0.14
Upper middle SES	–0.65	0.52	-1.14_b	0.32

Note. Students in the same column and same category but with different subscripts have significantly different odds of applying to college. All differences are significant at the .01 level. The reference categories are White and high SES students. *B* = logged odds.

had significantly lower odds of applying to two or more schools ($Z_{.005}$ = –4.3667, –3.9796, and –3.8194, respectively, $p < .01$) than did students from the same SES background who had student–counselor contact after 10th grade. Both low SES and lower middle SES students who had no counselor contact had lower odds of applying to two or more schools compared with low SES and lower middle SES students who saw the counselor by 10th grade ($Z_{.005}$ = –2.88 and 4.4728, respectively, $p < .01$). Regarding application to one school (vs. none), we found that there were no significant interaction effects when comparing students in low SES, lower middle SES, and upper middle SES quartiles with high SES students across student–counselor contact categories.

Discussion

We used a social capital theoretical framework and a national longitudinal sample of high school seniors in the United States to investigate the effects of students' contact with school counselors for college information. Specifically, we studied the effects of the number of school counselors in a school and student–counselor contact for college information on students' college application rates when considered among other college-related variables. It is not surprising that this study supports previous research that suggests a wide range of college-related variables influence the college application process (Cabrera & La Nasa, 2000, 2001; McDonough, 2005a, 2005b; Perna, 2000; Perna et al., 2008; Perna & Titus, 2005). More important, this study provides new insights into the role that student contact with school counselors for college information may play in the college application process. These findings have important implications for professional school counselors, education administrators, and policy makers and add much-needed data to the body of research that looks at accountability in strategic school counseling interventions related to academic achievement and proximal outcomes (see Brown & Trusty, 2005).

The Effects of College-Related Variables on Applying to College

The study supported previous findings about the influence of gender, academic achievement, parental involvement, and size of school on students' application to college (Cabrera & La Nasa, 2000, 2001; McDonough, 2005a, 2005b; Perna, 2000; Perna et al., 2008; Perna & Titus, 2005). However, race/ethnicity, SES, students' postsecondary education aspirations, and mothers' postsecondary education expectations significantly predicted students' application to two or more schools versus none but not one school versus none. These specific variables had differential effects on applying to college: They were stronger predictors (as indicated by the odds ratios) of students who applied to two or more schools than they were of students who applied to one school versus none (see Table 1). This surprising finding begs the question of possible, substantive differences between the two groups of students: those who apply to two or more schools and those who apply to only one. Perhaps those who apply to one college may be indecisive about college attendance; struggle with issues of motivation; lack clear procedural understanding or the financial resources for multiple college application fees; or hold ambiguous, unrealistic personal and professional goals that impede the application process. It is also possible that these two groups of students are seen differently by school counselors and receive differential school counseling services based on counselor expectations or unintentional biases. Although the design of the current study did not allow for investigation of these issues, future study, particularly that which is qualitative in design, may more fully explore the nature and disposition of students and counselors as they engage in the college application process. Current research in this area is just beginning to broach the topic of student and counselor dispositions. For example, Bryan, Holcomb-McCoy, Moore-Thomas, and Day-Vines (2009) found that school counselors' postsecondary expectations were a predictor of student–counselor contact. High school students were less likely to see school counselors for college information when they believed school counselors did not expect them to attend college. Furthermore, Muhammad's (2008) recent work on the college choice process for African American students suggested that African American students' understanding of their school counselors' postsecondary educational expectations positively influenced students' college predisposition. More research in this area, however, is warranted.

School Counselors as a Source of Social Capital in the College Application Process

Both the number of school counselors in a school and students' contact with the school counselor for college information appear to have an effect on college application rates. Number of school counselors had statistically significant positive effects on students applying to two or more colleges but had no significant effect on those applying to one college. These findings in part support previous research documenting the relationship between the number of school counselors and the college process (McDonough, 2005a; Perna et al., 2008) and are particularly noteworthy given the research that suggests application to multiple colleges may increase the likelihood of acceptance to a 4-year institution (Roderick, Nagaoka, Coca, & Moeller, 2008). For students applying to two or more schools, when there are more school counselors or smaller student–counselor ratios, school counselors may be less bogged down with scheduling and other non-counseling-related tasks and may be more able to devote time to college counseling. This finding substantiates the need to conduct further research to understand the context and needs of students applying to only one college and two or more colleges.

Findings also indicated that, in general, student–counselor contact for college information is a significant positive predictor of applying to college, and these effects appear stronger for earlier

student–counselor contact (i.e., by or in 10th grade) as opposed to later (after 10th grade). Furthermore, when we examined two-way interactions among student–counselor contact and SES, student contact with the school counselor for college information seemed to reduce the negative effects of lower SES on applying to two or more colleges. Indeed, students in the three lowest SES quartiles (i.e., low SES, lower middle SES, upper middle SES) who have no contact with the counselor for college information have far lesser odds of applying to two or more colleges than do those who see the counselor after 10th grade. Similarly, positive effects of student–counselor contact exist for students in the two lower SES quartiles who see the counselor by 10th grade (when compared with those with no contact). Although students' SES appears to have a pervasive negative effect on applying to college, the study's results support research that suggests that school counselors may be indispensable in the college-going process for some students from lower socioeconomic backgrounds who typically depend on counselors as a major source of information and support (Cabrera & La Nasa, 2000, 2001; Stanton-Salazar, 2001). Given the framework of this study, school counselors may serve as an important source of social capital for these students. That is, school counselors may serve as a significant or sole source of college-related information, norms, or social support for students from lower SES backgrounds.

Regarding race/ethnicity, these results indicate that, in general, Asian and Black or African American students are more likely to apply to two or more colleges than none when compared with their White peers. Indeed, previous research revealed that Black and Asian American students are more likely to apply to college (Cabrera & La Nasa, 2001; Perna, 2000) and that Black students are more likely to seek out college information and resources, engage in student–counselor interactions around college going, and consider applying to more schools (Bryan et al., 2009; MacAllum, Glover, Queen, & Riggs, 2007). However, the interaction effects between student–counselor contact and race/ethnicity suggest some interesting and perhaps conflicting findings. The benefits of student–counselor contact appear to vary between and within some racial groups and depend on the time that the student–counselor contact occurs. For Black students, student–counselor contact for college information affected only the odds of applying to one college versus none, with lower odds for those who saw the counselor after 10th grade. In comparison, Black students who had no counselor contact for college information had higher odds of applying to one or more colleges versus none. These findings are interesting given that previous research indicates that Black or African American students are consistently more likely to see the school counselor for college information than are their White peers (Bryan et al., 2009). These findings seem to suggest that school counselors may serve as limited social capital for Black or African American students, and there is still much work that must be done in examining the practices of school counselors and the efficacy of those practices as they specifically relate to the needs of this student population. Whereas barriers to initiating school counseling related to college have seemingly been crossed, the barriers to effective practice that move beyond information seeking may still exist.

Regarding Hispanic students, those who saw the counselor for college information after 10th grade were less likely to apply to two or more colleges than were those who had no student–counselor contact for college information. The finding that Hispanic students who have no counselor contact have higher odds of applying to two or more colleges suggests that there is a group of Hispanic students who may seek out and benefit from sources of help other than the school counselor. Some suggest that although the college plans and choices of Hispanic students are especially shaped by teachers and counselors (Roderick et al., 2008), school agents may be sources of negative social capital for Hispanic students in the college-going process (Stanton-Salazar, 1997; Stanton-Salazar & Dornbusch, 1995). Although further research is needed to examine the nature and effect of high school college counseling on Hispanic students, it is possible that the nature of the contact between Hispanic students and school counselors may not promote these students applying to college.

Implications

This study has overarching implications suggesting that high school college counseling matters. For many students, school counselors may serve as an important source of social capital in the college application process. Although a myriad of student and school factors contribute to the college application process, contact of students with the school counselor for college information provides a positive advantage for students who see the school counselor by 10th grade and for less affluent students throughout their high school years. The findings of this study point clearly to the need for school counselors to (a) reach and prepare students and their families with ongoing college information by 10th grade; (b) create a college-going culture within schools that includes interventions to increase opportunities, expand mechanisms of support, and inculcate a belief in college attendance for all students (McClafferty, McDonough, & Nuñez, 2002); and (c) make special efforts to support and encourage students and families who historically have had limited access to higher education with culturally relevant and effective interventions (Farmer-Hinton & Adams, 2006; Hawkins & Clinedinst, 2007; Perna et al., 2008). These three areas of need are more fully discussed as follows.

Early Student–School Counselor Contact

Although school counselors must develop comprehensive and ongoing college preparation interventions for all students throughout high school, they must concentrate efforts during the ninth- and 10th-grade years on building student aspirations and augmenting students' and parents' knowledge about colleges and financial aid. Students who develop early college aspirations increase their probability of college attendance

(Cabrera & La Nasa, 2000, 2001). School counselors create a culture of college going when they provide a comprehensive school counseling program that transmits clear expectations that every child will be prepared for college or some form of postsecondary education; provides ongoing and current college information, resources, and tools to students and families; and partners with feeder schools and postsecondary institutions and school personnel, families, and community members to provide a college preparation experience for all students beginning early in the high school program (Corwin & Tierney, 2007; McClafferty et al., 2002; Trusty & Niles, 2004). Counselor educators and others committed to the development of school counselors must therefore provide educational experiences and professional development opportunities that specifically address college access counseling. Although this is a relatively new area of counseling program development, some exciting course work and programming is being developed across the nation for master's-level school counselors and practitioners to study the theory and practice of college access counseling. This work and the development of supplemental materials, such as textbooks, DVDs, and other tools, must continue and become a standard part of school counselor preparatory course work.

Systems of Support

School counselors must recognize the importance of positive parental involvement and community engagement in the college-going process and intentionally plan positive ways to connect with all families around college going. School counselors must engage students and their families in college preparation as early as elementary school (Trusty, Mellin, & Herbert, 2008). This includes families whose children are having problems at schools and families who do not have experience with the college-going process. School counselors must find positive and creative ways to increase families' social capital by engaging these families in college preparation activities. In addition, school counselors must recognize that parental involvement for racial/ethnic minority students often looks different from the traditional forms of parental involvement, such as volunteering and PTO attendance (Bryan, 2005; Perna & Titus, 2005). Nontraditional types of involvement are involving leaders and members of community organizations, such as churches and other places of worship where parents are already engaged in college preparation activities; taking college workshops and activities to community venues; and partnering with colleges and college outreach programs, such as Upward Bound, Talent Search, and Gear Up, to provide college preparation and enrichment activities for low-income and minority students (Bryan et al., 2009). In particular, exploration of these and other systems of support may shed light on the current study's findings regarding social capital for Hispanic students.

Socioeconomic Factors

Another implication of this study is that school counselors must examine particular strategies for reaching out to students of lower SES backgrounds. It is incumbent upon school counselors to make their college counseling contact beneficial to these groups of students because they rely so heavily on school counselors for college information and related resources. It is likely that these students may also need more support in the form of individual and group college counseling. Suffice it to say, disseminating college information is not enough, especially for students who do not have a college-going culture at home. Students and their families need help in understanding, interpreting, and applying the information (MacAllum et al., 2007). Consequently, school counselors will need to offer concrete support in the form of help with selecting appropriate schools, writing college essays, and completing online financial aid forms. Each of these activities often moves beyond simple advising into individual counseling where the needs, desires, goals, beliefs, and expectations of the student can fully be explored. It is imperative that school counselors engaging in this work exhibit the highest levels of ethical standards, cultural sensitivity, and self-awareness. This kind of individualized work also demands school counselor–student ratios that support direct service and allow school counselors to truly function as viable sources of social capital for students.

Educational policy makers and administrators at the federal and state levels must be cognizant of the important role that school counselors play in the college application process. High school student–counselor ratios and the inefficient practice of using school counselors' time and service in non-college-counseling-related tasks reduces the amount of time that high school counselors can spend in college counseling and, consequently, reduces college access for students (McDonough 2005a, 2000b). Policy makers and administrators must reduce student–counselor ratios in schools by employing more counselors and by advancing national and state-level agendas and programs to promote college going for all students, especially for those students who historically have had limited access to postsecondary education.

Limitations and Future Research

Although this study highlights the importance of school counselor contact in the college choice process, the findings of this study in no way speak to the nature or quality of the interactions between counselors and students, including who initiated the contact and the length or quality of the contact. Future investigations should explore other dynamics of student–counselor interactions about college. For instance, future research should consider the extent to which counselor contact, attitudes, and expectations predict the college information seeking of students from particularly vulnerable groups, such as first-generation college students, low-income college students, students with disabilities, and students of color, and examine the relative impact of counselor perceptions and dispositions on the postsecondary decisions of students. Additionally, further research is needed to examine the differences in patterns of college

application and personal characteristics and dispositions between those who apply to one college and those who apply to two or more colleges.

Although this study has important implications for future school counseling research, some important limitations must be noted. First, and perhaps most significant, is that the study uses a secondary data source. Although the data source is extensive, we were restricted to the data collected and to the constructs as defined by the original investigators. It is possible that omitted college-related and counselor variables may function as stronger predictors of college application rates than the included variables do. It is also important to note that none of the included variables specify quality or details of the student contact with the professional school counselor. This important missing information may have provided further insight on the findings of this study. Furthermore, the data did not allow us to examine whether students applied to 2- or 4-year schools or noncompetitive or selective schools. It is possible that interesting trends could be revealed from this kind of in-depth investigation.

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