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The Counseling Opportunity Structure: Examining Correlates of Four-Year College-Going Rates

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Abstract This study examines the relationships between the normative and resource dimensions of a high school counseling department and four-year college-going rates. Utilizing data from the High School Longitudinal Study of 2009 (HSLS: 09), we employ multiple regression and latent class analysis to identify salient factors related to the college-going culture of a high school and to classify schools according to their underlying counseling opportunity structure, respectively. Results demonstrate that both norms (i.e., average caseload and hours spent on college counseling) and resources (i.e., college fairs, college course offerings, and financial aid) are important predictors of a school's four-year college-going rates. These results, in turn, produced a three-level typology of schools based on a divergent, emergent, and convergent classification system. The study concludes with a discussion of findings and implications for researchers and policymakers interested in improving and better understanding the counseling opportunity structure.

Keywords Counseling · College-going · Access

Introduction

Myriad studies address the critical role of high school counselors in shaping the opportunity structure of college-bound students. Perhaps the most salient—and indeed groundbreaking study—was conducted by Patricia McDonough (1997) that called attention to the significant role of high school counselors in the college choice process and how school policy, mission, and resources (i.e., the overall wealth of a high school) dictate organizational norms, particularly the distinct roles afforded to counselors. While other studies have highlighted the important role of counselors in developing college aspirations and ensuring that students are academically and financially prepared for college (Abrego and

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Gonzales 2010; De Leon 2005; Fallon 1997; McDonough 1997, 2005a; Plank and Jordan 2001; Stanton-Salazar 1997), more recent studies have emphasized the larger state and local policy context in shaping the availability of college counseling. (Perna et al. 2008).

In order to examine the role of high school counselors in facilitating college access, particularly for students with limited access to informational and networking resources (e.g., first-generation students, low-income students), it is necessary to first address the underlying rationales used to explain disparities in college attendance. The most salient explanations highlight the role of three critical determinants that drive college-going behavior: financial resources, academic preparation, and access to information about the college choice process (Engberg and Wolniak 2010; Engberg and Allen 2011; Perna 2006; Thomas and Perna 2004). Each of these explanations underscores the ways in which high school counselors can potentially improve and facilitate the opportunity structure for underserved students. High school counselors, for instance, can provide education and resources that illuminate financial aid possibilities, connect students to academic assistance programs, and reinforce the necessary steps to ensure students are prepared for college opportunities (McDonough 2005a).

It would be naïve, however, to assume that such a process can be simply stated in terms of providing more education and access to resources. Barriers exist, and many schools face student-to-counselor ratios that well exceed the long accepted norms of 100:1 (McDonough 2005a) and the more recent recommendations of 250:1 (NACAC 2010a). As a result, many high school counselors simply do not have adequate time to spend with students, which results in less trusting and effective relationships (Stanton-Salazar, 1997). Additionally, many high school counselors lack sufficient training and expertise to navigate the complexities of the college choice process and have limited educational training in college counseling (Bridgeland and Bruce 2011; Clinedinst et al. 2011; McDonough 2005a). These barriers often lead to a "traditional strategy" in approaching college enrollment that is characterized by limited resource capacity and a limited organizational commitment to facilitating access to available resources among students and their families (Hill 2008).

The purpose of this study is to more closely examine the relationship between the counseling opportunity structure (i.e., norms and resources of the counseling department) and the college-going rates of different high schools. Beginning in 2009, the Department of Education began data collection for the High School Longitudinal Study (HSLS: 09), a study that tracks students beginning in ninth grade to understand, among other issues, factors that influence their transitions to college and/or the workforce. What makes this particular study unique from its predecessors (e.g., ELS and NELS), is the addition of a survey component administered specifically to the lead high school counselor in schools across the nation. While other national surveys exist, (e.g., NACAC), no survey to date has been able to generalize to all high schools in the nation and connect such findings to data on the resources and norms of a particular high school. As such, the HSLS provides a unique glimpse into the counseling infrastructure of a high school and how the various norms and resources of the counseling department correlate with college enrollment outcomes and potentially differ across dimensions of the high school context (e.g., locations, type, socioeconomics, and learning environment).

Literature Review

In the review that follows, we more closely examine the roles and responsibilities of high schools counselors as well as the more specialized tasks involved in college counseling and the various factors and forces that influence the formation of a college-going culture.

Counselor Responsibilities and Caseloads

The American School Counselor Association (ASCA) posits that the primary goal of school counseling is to promote academic achievement (Brown and Trusty 2005), whereas the National Office for School Counselor Advocacy (NOSCA), a subset of the College Board's Advocacy and Policy Center, and the National Association for College Admission Counseling (NACAC) highlight the important role school counselors play in college readiness and college access (Bridgeland and Bruce, 2011; Clinedinst et al. 2011). Although these professional organizations emphasize academic achievement and college planning as the primary responsibilities of high school counselors, counselor responsibilities vary by type and size of high school and most include the following functional areas: testing duties (coordinating, administering and proctoring); drug and alcohol counseling; assisting in personal growth; class scheduling; supervision assignments; and fostering career development (Brown and Trusty, 2005; Corwin et al. 2004; Perna et al. 2008).

As a result of the myriad responsibilities placed on high school counselors, many counselors experience high levels of role ambiguity and conflict in their expectations from various constituents (Freeman and Cole 1997). Counselors report that in addition to the litany of service-oriented responsibilities, numerous administrative obligations, such as data collection and report completion, take valuable time away from college counseling. Even students and parents who praise school counselors for their college counseling assistance often report that more help is needed (Perna et al. 2008). There is some debate as to how much time should be spent on college counseling and whether a "college-for-all" approach should outweigh other important functions such as vocational coaching (Rosenbaum 2001). However, research has shown that counselors in public schools spend only a quarter of their time on college counseling related activities (with lower income schools spending less time on college counseling activities than higher income schools) while their private school counterparts spend more than half (Clinedinst et al. 2011).

The work of school counselors is also affected by high student-to-counselor ratios that vary both across and within states and are rarely determined by the make-up and needs of the student body (Perna et al. 2008). The US Department of Education states that the average public high school student-to-counselor ratio is 407:1, but a counselor survey of both public and private high schools conducted by NACAC, revealed a lower, yet still high, figure of 272:1 (Clinedinst et al. 2011). However, the student-to-college counselor ratio (with the term college counselor loosely defined as a counselor for whom college counseling is part of their duties) jumps to 333:1, because at many schools, college counseling is not a task assumed by school counselors (Clinedinst et al. 2011). College counselors, however, are often perceived by students and parents as more knowledgeable, accessible, reliable and helpful than a general school counselor (Bell et al. 2009).

Unfortunately, larger caseloads often prevent high school counselors from proactively reaching out to students and parents and instead leave them to depend on students and parents to seek them out for information (Perna et al. 2008). As a result, many high school counselors have limited opportunity to do substantive work with 9th and 10th graders because of the pressing needs of 11th and 12th graders (Plank and Jordan 2001). Not only does this leave younger students feeling frustrated with their limited counselor interactions, and with the impression that their counselors do not care about them (Corwin et al. 2004), but it also prevents them from receiving early access to important information, such as college requirements and financial aid, that might promote college attainment (Bell et al. 2009).

College Counseling

McDonough's (1997, 2005a) earlier and subsequent research on counselors highlights their influential role in shaping the college-going culture of high schools, including the types of institutions students consider in the college choice process. In particular, McDonough (2005b) identified four aspects of a high school that can significantly affect college attendance rates, all of which have a role for counselor involvement if given the opportunity: a college prep curriculum; a college-going culture; staff who are committed to supporting all students in their college pursuits; and resources allocated for college counseling. McDonough (2005a, b) also emphasizes the role of counselors in educating students (and their parents) about the value of a college degree and concomitantly building aspirations for postsecondary education. Additionally, high school counselors help students understand the academic preparation necessary for college and often provide a bridge to college information and college representatives (Wolniak and Engberg 2007). Along with family and the internet, students list the high school as a primary source of college information (Bell et al. 2009), and for many under-represented students, the school counselor is seen as a critical social agent in navigating the college search process (Bryan et al. 2011; Stanton-Salazar 1997).

In her research on urban schools, Hill (2008) identified four different resource dimensions that facilitate college going: (1) encouraging college visits, (2) assisting with college applications, (3) assisting with financial aid applications, and (4) contacting college representatives on behalf of students. Using a conditional probability method, Hill developed a typology of schools according to their resources and organizational commitment to college-going that included traditional (low resources, low commitment), clearinghouse (moderate resources, moderate commitment), and brokering high schools (high resources, high commitment). Each of these school types, in turn, was associated with different probabilities of students attending college, with the brokering schools providing the highest overall probability of attending a four-year institution.

Access to College Counseling

Access to college counseling varies greatly across states and school districts (Perna et al. 2008). Students who attend schools with primarily low-income or high minority student populations are less likely to receive adequate college counseling due to fewer counselors, higher caseloads, and other counseling responsibilities (McDonough 1997, 2005a); similarly, students from higher socioeconomic strata are more likely to be directed toward four-year college destinations compared to their middle and lower socioeconomic counterparts. In some schools, students in honors tracks, college preparatory tracks, and those who take Advanced Placement courses are more likely to receive some form of college counseling (Venezia and Kirst 2005), while in other schools these same students are left to fend for themselves while counselors focus their efforts on needier students (Perna et al. 2008).

Unfortunately, the literature on the role of the school counselor in facilitating college access is conflicting, and the effect of counselor-student interactions for some under-represented students is unclear. Although research has shown that Black students who feel supported by their counselor are more likely to see their counselor for college information and engage in the college process (Bryan et al. 2009; Farmer-Hinton and Adams 2006; Muhammad 2008), Bryan et al. (2011) also found that Black and Hispanic students who had contact with a counselor after 10th grade were less likely to apply to college than Black and Hispanic students who had no counselor contact. The researchers explained

these rather conflicting findings in relation to the perceived efficacy of the counseling staff, which often leads students to seek help from other social agents in the school and community. Rosenbaum et al. (1996), for instance, discovered that although many counselors share a "college for all" message, they inwardly believe that some students do not have the academic record to be successful.

The Tomás Rivera Policy Institute (2004) found that Latino students and parents turn to counselors most for college information, but Person and Rosenbaum (2006) found that Hispanic students are more likely to turn to siblings or friends, rather than counselors, for college advice. Many underrepresented students report hesitancy in reaching out to school counselors for fear that the counselor will either not understand their needs or not support their college plans (Gándara 2002). First-generation college students attending poorly resourced schools are often not exposed to a college preparatory curriculum and as a result, many academically capable students are steered by high school counselors away from college (Fallon 1997). Additionally, undocumented students rarely turn to counselors as the primary source of college information due to experiences of discrimination and prejudice (Castro-Salazar and Bagley 2010; Muñoz 2008; Pérez et al. 2010).

Poorly developed relationships between students and counselors have multiple ramifications. Although some students believe counselors possess valuable college and financial aid knowledge (Bell et al. 2009), too many students view high school counselors solely as schedulers rather than advocates and supporters of their college search (Corwin et al. 2004). Students often blame the counselor for incorrect course placement or for disseminating erroneous curriculum advice (McDonough 1997). Often counselors' goals and student perceptions of counselors' usefulness are incongruent (Corwin et al. 2004), and some students feel that high school counselors have low student expectations (McDonough 1997). First-generation and lower-income students depend on counselor input regarding academic planning for college, and when they view counselors negatively they are less likely to seek them out for information, thereby cutting off an essential source of information (Corwin et al. 2004).

Conceptual Framework and Research Questions

Based on our review of the literature, we conceptualized the counseling opportunity structure as having both normative and resource dimensions. As shown in Fig. 1, we posit that norms around college counseling should incorporate dimensions related to both the average caseload of a counselor as well as the prioritization given to college preparation (McDonough 1997, 2005a, b). Further, we conceptualize the resource dimension, based on the prior work of Cabrera and La Nasa (2001), Hill (2008), and McDonough (1997), to include resources such as academic assistance, parental outreach, contact with college representatives, college visits and fairs, and financial aid assistance. Through their quantitative and qualitative work, these researchers have demonstrated how counseling norms and students' access to different counseling resources specific to the college choice process influenced the likelihood of an individual applying to college. Additionally, counselors work closely with colleges and universities to develop relationships necessary to support dual enrollment and are instrumental in helping students take advantage of such opportunities by facilitating transcript requests and application support, making accommodations related to scheduling, and helping students and parents understand the enrollment process (Armstrong Atlantic State University n.d.; Florida Department of Education n.d.; Kent State University n.d.).

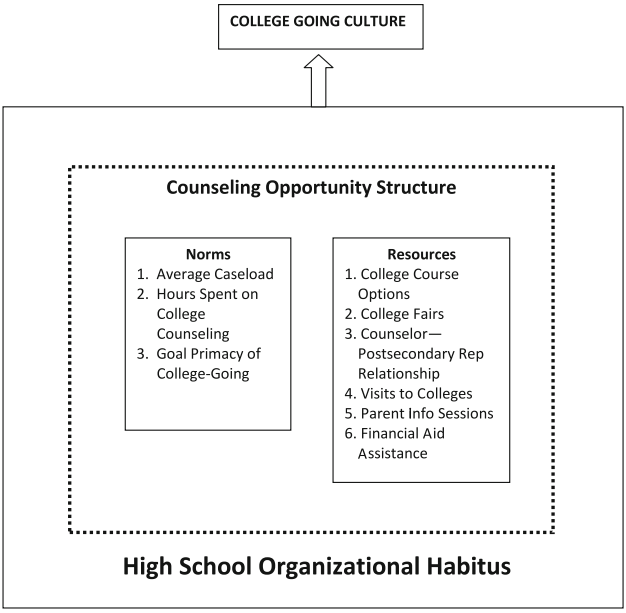

Fig. 1 Conceptual relationship between the counseling opportunity structure and four-year college-going rates

Counselors do not perform their work in isolation and postsecondary outcomes are also affected by high school, community, and state and federal policy environments (Perna 2006; Perna et al. 2008). McDonough's (1997) work in particular describes "the impact of the broader school climate on the creation of an organizational habitus that limits the universe of possible college choices into a smaller range of manageable considerations" (p. 10). In doing so, McDonough extends Bourdieu's (1986) notion of habitus, which refers to an internalized set of beliefs an individual acquires from his or her environment, to the normative culture or collective consciousness of a school environment and how this interacts with individual decision-making. While the concept of habitus at either the individual or organizational level remains rather elusive, researchers have investigated important linkages between different aspects of both the normative and structural contexts of high schools (e.g., locale, control, socioeconomics, academics, demographics, teaching and learning resources, school morale, and the frequency of school violence) and college attainment (Engberg and Wolniak 2010; Perna and Titus 2005). In addition, policies and priorities set at the district or administration level affect high school counselors' ability to develop and implement effective college counseling programs (Hill 2011; Perna et al. 2008). Public and private schools, in particular, often differ in their emphases on academic achievement and preparation for post-secondary education, with private schools employing at least one college counselor at three times the rate of public schools (Clinedinst et al. 2011).

In bridging the extant literature on college choice and high school counseling, we posit that facets of the high school organizational habitus influence both the norms and resources of a counseling department as well as the larger college-going culture. We situate the counseling department within the organizational habitus of the high school and see both

normative and structural aspects of the counseling department influencing the larger college-going culture of a high school. We also recognize that outside forces (e.g., district and state policy environments; Hill 2011; Perna et al. 2008) influence the counseling opportunity structure, but we were limited by the available data in testing these hypotheses. Further, the framework in Fig. 1 assumes a unidirectional influence of the high school organizational habitus and counseling opportunity structure on the college-going culture of a high school based on the extant research, although we recognize the possibility of alternative models in which an existing college-going culture reinforces the norms and resources offered by a counseling department. We limit our research questions, therefore, to an examination of the relationship between the counseling opportunity structure and four-year college-going rates, and emphasize throughout this paper the correlational rather than causative properties inherent in the conceptual framework of the study. Based on these assumptions and the conceptual framework of the study, we posed the following three research questions:

1. Controlling for high school characteristics, to what extent do various aspects of the counseling opportunity structure correlate with a high school's four-year college going rates?
2. To what extent are the relationships between the counseling opportunity structure and four-year college-going rates conditional on aspects of the high school context?
3. What type of classification system is useful in describing the counseling opportunity structure? To what extent does this classification differ across various school characteristics?

The first question provides a deeper understanding of the relationship between the counseling opportunity structure and the overall college-going culture of a particular school, whereas the second question examines whether these relationships are conditional on the socioeconomics, academics, or learning environment of a particular high school. Based on these results, the third question examines a typology of schools, paying particular attention to the conditional probabilities associated with the most salient aspects of the counseling opportunity structure. Finally, the typology of schools is examined more closely to identify significant differences across important school-based characteristics.

Methods

Instrument and Sample

Data for this study was derived from the High School Longitudinal Study of 2009 (HSLS: 09), a federally-funded, nationally representative, longitudinal study that surveyed students beginning in the ninth grade with additional follow-ups scheduled as students transition to postsecondary education and the workforce. The initial sample included approximately 21,000 ninth graders in 940 schools using a multi-stage design frame that allows one to generalize to more than 4.2 million students at over 23,000 high schools. Additionally, at the baseline administration, parents, teachers, administrators, and most important to this study, high school counselors, were surveyed on a variety of different issues. The high school counselor survey was administered to the lead counselor in each of the sampled schools. Questions covered a range of topics, including common practices in the counseling department, allocation of time, goals, programs and policies, and steps in transitioning students from high school to college and/or the workforce.

The primary analytic sample included approximately 940 schools (weighted $N = 23,022$), of which approximately 76 % were public schools. In terms of location, 21 % of sample schools were located in cities, 23 % in suburban areas, 17 % in towns, and 40 % in rural areas. Additionally, the schools represented a range of types, including 84 % regular schools, 4 % charter schools, and 4 % magnet schools. Finally, in terms of the school population, on average, 37 % of the population was on free or reduced lunch, 11 % were enrolled in AP courses, and 31 % of the population identified as non-White.

Variables

The main dependent variable for the study was a single indicator that measured the school-wide percentage of seniors in the 2009–2010 academic year attending a four-year college. This data was based upon the school administrator survey and provides important information about the overall college-going culture at a particular high school.

Based on the prior work of several scholars (e.g., Hill 2008; McDonough 1997, 2005a, b), particularly as it relates to operationalizing the counseling opportunity structure, we included variables to capture both counseling norms and resources. In relation to counseling norms, we included three items: the average caseload of counselors, the percentage of hours spent on college preparation, and whether college preparation was seen as the primary goal of the counseling department. The average caseload was a continuous measure whereas the primary goal was a dichotomous variable. The percent of hours spent on college preparation was an ordinal variable transformed into a set of four dummy variables (i.e., 0–10, 11–20, 21–50, and greater than 50), with the greater than 50 % category used as the referent group. In terms of counseling resources, we used a set of six dichotomous variables based on whether or not a school offered a particular resource. The full set included questions related to the availability of courses at four-year colleges, and whether the school held college fairs, consulted with postsecondary representatives, organized student visits to colleges, held college information sessions for students and parents, or assisted students with finding financial aid for college.

We incorporated several school-level characteristics as covariates in the study to better isolate the effects of counseling variables. Many of these variables have been empirically linked to college-going (e.g., Engberg and Wolniak 2010) and were available through the school administrator survey. In terms of school characteristics, we included measures for school control (i.e., public or private), school location (i.e., city, suburban, town, or rural), and school type (i.e., regular, magnet, charter, or alternative/vocational). We dummy-coded each of these variables and used private, suburban, and regular schools, respectively, as referent groups. In order to control for characteristics of the student population, we included three continuous variables that measured the percentage of students who were on free or reduced lunch, enrolled in an AP course, or identified as non-White. Finally, in order to control for the overall learning environment of the school, we relied on two factor composites based on a set of items asked of the principal in each of the surveyed schools. The first factor, frequency of violence, included 14 items measuring the frequency of behaviors such as robbery, vandalism, drug/alcohol use, gang activities, and verbal abuse/disrespect for teachers (Chronbach's Alpha = 0.885). The second factor, severity of school problems, included nine items measuring the extent to which the following were problems in the school: tardiness, absenteeism, class cutting, dropping out, apathy, lack of parent involvement, unprepared students, lack of teacher resources, and poor student health

Table 1 Descriptive statistics for variables in the analytic model (weighted $N = 23{,}022$)

	Min	Max	Mean	SD
School characteristics				
Public	0.00	1.00	0.761	0.427
Private	0.00	1.00	0.239	0.427
City	0.00	1.00	0.212	0.409
Suburban	0.00	1.00	0.227	0.419
Town	0.00	1.00	0.166	0.372
Rural	0.00	1.00	0.396	0.489
Regular	0.00	1.00	0.844	0.363
Charter	0.00	1.00	0.041	0.198
Magnet	0.00	1.00	0.036	0.186
Alternative/Vocational	0.00	1.00	0.027	0.162
School population				
% attending four-year college	0.00	100.00	49.008	27.189
% free/reduced lunch	0.00	100.00	36.737	26.822
% enrolled in AP courses	0.00	100.00	11.476	14.154
% non-White students	0.00	100.00	31.097	30.927
School norms				
Frequency of violence	-0.83	4.24	2.081	0.521
Severity of school problems	-0.45	5.40	1.999	0.599
Counseling norms				
Average caseload	2.00	1178.00	272.234	164.887
% hours on college: 0–10	0.00	1.00	0.249	0.433
% hours on college: 11–20	0.00	1.00	0.325	0.469
% hours on college: 21–50	0.00	1.00	0.397	0.490
% hours on college: >50	0.00	1.00	0.128	0.334
Primary goal: college prep	0.00	1.00	0.469	0.499
Counseling resources				
Courses not offered by school available at four-year college	0.00	1.00	0.441	0.497
School holds/participates in college fairs	0.00	1.00	0.854	0.354
School consults with postsecondary reps about requirements/qualifications	0.00	1.00	0.922	0.268
School organizes student visits to colleges	0.00	1.00	0.638	0.481
School holds college info session for students or parents	0.00	1.00	0.801	0.400
School assists students with finding financial aid for college	0.00	1.00	0.914	0.280

HSLS: 09 restricted data

(Chronbach's Alpha = 0.876; see Table 1 for descriptive statistics on all variables in the analytic model).

Analyses

The first step of the analytic process was to condition the data, including data transformations, factor analysis, and missing data replacement. To identify the two factors used to

operationalize school norms, we employed a principal components analysis with a Varimax rotation and an associated reliability analysis. To replace missing data, we first examined the prevalence of missing data for all variables in the analytic model. While most of the variables in our analytic model had less than 10 % missing data, there were three notable exceptions: the percent attending four-year colleges (25.4 %); frequency of violence (17 %); and the severity of school problems (17 %). In order to generalize to the nationally representative sample of high schools included in the HSLS: 09 dataset, we used a pooled (based on five imputed samples) multiple imputation method to replace missing data based on a fully conditional specification procedure that utilizes the Markov chain Monte Carlo (MCMC) iterative method (see Li et al. 1991; Schafer 1997). The imputation procedures were implemented using the default settings of the missing imputation add-on module available in IBM SPSS v.20 with constraints added based on the descriptive ranges of available data. Given the analytic model was based on a theoretically-driven understanding of school and counseling factors related to college enrollment, we did not include additional passive or auxiliary variables in the imputation model. We did, however, perform two sets of missing data analyses: one in which we did not impute the dependent variable (excluding those cases from the analysis missing values on the dependent variable); and one in which we imputed the missing values on the dependent variable based on the available data. For purposes of parsimony in our data reporting and to maintain a nationally representative dataset, we only report on the latter set of analyses in the results section; results from the first set of missing data analyses are included in Appendix Table 6.

To answer our first research question, we used an OLS hierarchical regression model and regressed a school's four-year college-going rate on different school and counseling indicators. We first entered school indicators, which consisted of a set of school characteristics, school population statistics, and school norms. Next, we entered two sets of counseling indicators related to those norms and resources that characterize the college counseling opportunity structure. In doing so, we examined the findings to identify both significant effects as well as the relative contribution of each block of variables to the amount of explained variance (R^2). The analysis was conducted using a normalized weight (i.e., W1SCHOOL) to generalize to the larger population of 23,022 schools contained in the weighted sample. After running the main effects model, we then examined the effects of adding different sets of interaction terms to the model, including cross-interactions between four high school variables (i.e., % free/reduced lunch, % enrolled in AP course, frequency of violence, and severity of school problems) and each of the counseling norms and resource indicators. Using conditional effects methods delineated by Pedhazur (1982), we first investigated whether each set of interactions significantly increased the amount of explained variance in the model. Having met the first condition, we then examined the results for significant interaction terms. Upon finding significant interaction terms, we then reran the models across samples that were segmented into quartiles based on the relevant high school context variables.

Based on the OLS regression results, we employed a latent class (LC) analysis to determine a multi-dimensional typology of the college counseling opportunity structure (Vermunt and Magidson 2002). The LC analysis identifies clusters that group together cases that share similar characteristics (i.e., norms and resources), while providing a range of diagnostic tools to identify the optimal classification structure. LC analysis has several advantages over traditional cluster and factor analytic approaches: cases are classified into clusters based on membership probabilities; variables may be categorical or continuous; and covariates can be used for cluster description. After performing the LC analysis, we

then examined differences across the clusters using both Chi square and ANOVA techniques for the categorical and continuous variables, respectively.

Limitations

There are several important limitations to the present study. First, this study was based on secondary data analysis of the HSLS: 09 dataset. As such, we were limited by the questions asked of the lead high school counselor on the HSLS: 09 survey. For instance, the survey simply asks the lead counselor if they assist students in finding financial aid for college, with no real qualitative sense of the structure, frequency, or programmatic offerings that constitute such assistance; this was true of many of the counseling resource questions directly related to college preparation. While the survey does provide a unique opportunity to make generalizations to a nationally representative set of counselors, the questions provide only a superficial understanding of the larger counseling opportunity structure. Additionally, the baseline administration of the HSLS: 09 survey only provides cross-sectional data and the college-going rates used in this study were measured simultaneously with measures of the counseling opportunity structure, making it difficult to rule out competing explanations of our findings.

Similar to most national studies (e.g., NELS and ELS), missing data poses certain restrictions on the external validity of study's findings. For instance, 25 % of the high schools in the sample did not provide an estimate of their four-year college going rates. Although we imputed the missing values using the most advanced imputation methods available, we recognize that our estimates may be biased and therefore also included a parallel analysis in the appendix in which we did not impute missing values on the dependent variable. There is considerable debate about the appropriateness of imputing missing dependent variables, with some researchers cautioning that such a technique merely increases sampling variability and others suggesting that replacement can lead to greater efficiency and reduction in bias (Allison 2012).

Finally, while the regression models explained a large amount of the variance in four-year college attendance, we were limited by the available data in operationalizing aspects of the high school context. For instance, we are cognizant that additional academic variables (e.g., incidence of SAT/ACT takers, average SAT/ACT scores, grade point averages) would add complexity to the analytic model and likely explain a larger percentage of the variance in college attendance. We plan to conduct future studies based on the longitudinal follow-ups of the HSLS: 09 that will include additional academic information obtained from the high school transcripts of survey respondents.

Results

OLS Hierarchical Regression: Main Effects

Table 2 presents the regression results from the five imputed and pooled datasets, in which the percentage of students attending a four-year college was regressed on all school and counseling indicators. The first block of variables, which included school characteristics, school population statistics, and school norms, explained between 43 and 46 % of the variance in four-year college-going rates across datasets; the second block, which included indicators related to counseling norms and resources, explained an additional 11 to 12 % of

Table 2 OLS regression results predicting four-year college-going rates (weighted $N = 23{,}022$)

	Beta coefficients						
	Impute 1	Impute 2	Impute 3	Impute 4	Impute 5	Pooled	Pooled SE
School characteristics							
Public (private)	−13.598***	−15.174***	−10.447***	−12.479***	−20.019***	−14.343*	4.710
City (suburban)	3.634	4.658*	4.705*	4.273*	1.602	3.774	2.470
Town (suburban)	−3.033	−0.864	−0.548	1.436	−1.912	−0.984	2.803
Rural (suburban)	−1.394	−2.018	−1.263	−2.156	−2.891	−1.945	2.000
Charter (regular)	9.108**	6.315	5.688	4.064	9.596**	6.954	4.320
Magnet (regular)	18.781***	20.121***	16.362***	16.672***	16.937***	17.775***	4.038
Alternative/vocational (regular)	−12.301**	−12.294**	−7.311	−3.240	−4.603	−7.950	6.268
School population							
% Free/reduced lunch	−0.184***	−0.163***	−0.226***	−0.107**	−0.018	−0.140	0.096
% Enrolled in AP courses	0.262***	0.227***	0.167**	0.203***	0.379***	0.248*	0.103
% Non−White students	−0.028	−0.004	0.024	0.006	−0.058*	−0.012	0.044
School norms							
Frequency of violence	−5.008**	−4.806**	−2.803	−4.881**	−5.745**	−4.649*	2.118
Severity of school problems	−8.871***	−8.014***	−13.902***	−13.995***	−12.043***	−11.365*	3.442
Counseling norms							
Average caseload	0.018***	0.017**	0.019***	0.017**	0.025***	0.019**	0.006
% Hours on college 0–10 (> 50%)	−3.775*	−7.386***	−12.219***	−6.713**	−6.379**	−7.295	3.901
% Hours on college 11–20 (>50%)	−8.323***	−9.111***	−14.409***	−11.551***	−10.092***	−10.697**	3.240
% Hours on college 21–50 (>50%)	1.837	−1.112	−7.405***	−3.914*	−3.409	−2.801	4.217
Primary goal: college prep	3.399*	3.907**	2.653	4.030**	2.154	3.229	1.639
Counseling resources							
Courses not offered by school available at 4-year college	8.769***	6.793***	5.109***	6.742***	5.862***	6.655**	2.018

Table 2 continued

	Beta coefficients						
	Impute 1	Impute 2	Impute 3	Impute 4	Impute 5	Pooled	Pooled SE
School holds/participates in college fairs	9.499***	9.911***	8.857***	10.409***	8.469***	9.429***	2.115
School consults with post−secondary reps about requirements and qualifications	7.043**	2.773	9.713***	6.088*	10.307***	7.185	4.086
School organizes student visits to colleges	−5.824***	−6.165***	−4.501**	−8.018***	−6.768***	−6.255**	1.990
School holds college info session for students or parents	1.979	3.120	4.940*	3.733	4.047	3.564	2.366
School assists students with finding financial aid for college	11.252***	14.363***	11.723***	12.451***	11.349***	12.228***	2.922
R^2 based on school effects only	0.456***	0.447***	0.444***	0.431***	0.426***		
R^2 based on school and counseling effects	0.585***	0.571***	0.558***	0.549***	0.537***		

HSLS: 09 restricted data

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

the variance in four-year college-going rates. Thus, the overall imputed models explained between 54 and 59 % of the variance in four-year college-going rates.

In examining school indicators within the pooled results, public schools were approximately 14 percentage points lower in average college-going rates compared to private schools ($p < 0.05$). In regard to school types, magnet schools were approximately 18 percentage points higher in average college going rates compared to regular high schools ($p < 0.001$). In terms of school population characteristics, a one unit change in the percentage of AP courses offered predicted a 0.25 percentage point increase in average four-year college-going rates ($p < 0.05$). We did not find any significant results in the pooled sample related to either the percentage of students on free/reduced lunch or the percentage of non-White students. Finally, when examining school norms, a one unit change in the frequency of violence and the severity of school problems predicted a 4.6 and 11.4 percentage point decrease in college-going rates, respectively ($p < 0.05$).

Turning to the counseling indicators, we uncovered a positive, significant relationship between the average counselor caseload and four-year college-going rates ($p < 0.05$). Additionally, we found that schools in which counselors spend between 11 and 20 percent of their time on college-related counseling were associated with lower average college-going rates (approximately eight percentage points) compared to schools with counselors who spend over 50 % of their time on college counseling ($p < 0.01$).

We uncovered a number of counseling resources that were significant and positive predictors of four-year college attendance rates. Schools with counseling departments that offered financial aid assistance were approximately 12 percentage points higher in four-year college-going rates ($p < 0.001$) compared to schools that did not offer financial assistance. Additionally, schools that held or participated in college fairs were 9 percentage points higher in average college-going rates ($p < 0.001$) compared to schools that did not hold fairs. Finally, schools that either offered courses at four-year colleges or organized visits to colleges were associated with a 7 percentage point increase and 6 percentage point decrease ($p < 0.01$) in college-going rates compared to schools not offering these services, respectively.

While many of the above findings were consistent with those in which we did not impute the dependent variable, there were a few notable exceptions (see Appendix Table 6). For instance, in the model in which we did not impute the dependent variable, we found significant effects in the pooled model for both counselors who spend between 0 and 10 hours on college counseling and those departments who set college preparation as a primary goal. These findings seem to reinforce the importance of the normative effects of the counseling opportunity structure in terms of the number of hours spent on college counseling and the overall importance placed on college preparation in relation to other competing goals. Finally, we also noted a few additional effects related to the larger school habitus, particularly the significant effects related to students living in a city and attending an alternative/vocational school as well as the significant, negative effect related to the percentage of students on free/reduced lunch.

OLS Hierarchical Regression: Conditional Effects

We next ran conditional effects models using four sets of interaction terms, including cross-interactions among our school variables (i.e., % free/reduced lunch, % enrolled in AP course, frequency of violence, and severity of school problems) and all of the counseling norms and resource indicators. Although the main effect of the percentage of

Table 3 Conditional effects of high school habitus on four−year college-going rates (weighted $N = 23{,}022$)

	Quartile 1	Quartile 2	Quartile 3	Quartile 4
% Free/reduced lunch				
School consults with post-secondary reps about requirements and qualifications	24.820***	5.323	10.890	−11.449
% Enrolled in AP courses				
School organizes student visits to colleges	−16.815***	−3.213	1.890	−6.529
Frequency of violence				
School organizes student visits to colleges	−11.619*	−1.682	−1.647	1.126
Severity of school problems				
% hours on college 0–10 (>50%)	−5.361	−9.785	−11.962	−1.455
School organizes student visits to colleges	−13.065***	−0.053	−4.225	2.879

HSLS: 09 restricted data

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

students on free/reduced lunch did not produce a significant effect in the pooled results, we chose to examine this school level effect based on its significance in four of the five imputed datasets. In examining each set of interaction terms, we found a significant increase in the amount of explained variance, ranging from a high of 13 % when adding interaction terms related to the severity of school problems to a low of 1.5 % when adding interaction terms related to the frequency of violence. We then proceeded to examine the models for significant interaction terms, and where noted, we ran separate models by segmenting the school indicators into quartiles and examining the conditional models.

Table 3 presents the results of the conditional models for each of the significant interaction terms. We only found five significant interactions across the different sets of school indicators, suggesting that most of the main effects uncovered were not conditional on aspects of the school population and norms. In general, we found that the relationship between schools that organize college visits and four-year college-going rates was only significant in schools with the smallest percentages of students enrolled in AP courses and least amount of school violence and school problems. Additionally, we found a significant relationship between schools that consult with postsecondary representatives and four-year college-going rates only in schools with the smallest percentages of students on free/reduced lunch.

Latent Class Analysis

Based on the set of significant and positive counseling predictors uncovered in the OLS regression model, we performed a latent class (LC) analysis to identify a typology of counseling norms and resources indicative of the underlying counseling opportunity structure. Table 4 presents the results of the LC analysis, which revealed three distinct clusters, and the conditional probabilities associated with each counseling indicator. Approximately 6 % of the schools in the analytic sample were associated with cluster 1, which we labeled as "divergent" in relation to the underlying counseling opportunity structure. Schools in this cluster spend a limited percentage of their time on postsecondary

Table 4 Latent class analysis conditional probabilities for selected indicators (weighted $N = 23{,}022$)

College opportunity structure	Cluster 1: divergent	Cluster 2: emergent	Cluster 3: convergent
Cluster size	5.99	58.65	35.36
Average caseload	32.90	323.19	228.04
Percent of hours on college counseling:			
% hours on college: 0–10	62.39	20.13	6.63
% hours on college: 11–20	28.62	34.11	22.40
% hours on college: 21–50	8.48	37.32	48.92
% hours on college: >50	0.52	8.43	22.05
Primary goal: college prep	0.34	33.97	76.26
Courses not offered by school available at four-year college	6.10	35.83	64.22
School holds/participates in college fairs	18.27	89.61	89.71
School assists students with finding financial aid for college	51.18	96.60	89.70

HSLS: 09 restricted data. Analysis based on latent class analysis using Latent Gold 4.5 software package

counseling and were unlikely to emphasize college preparation as a primary goal of the counseling department despite their low average counseling caseloads. Additionally, these schools were unlikely to provide courses not offered by the school at a four-year college, had few resources devoted to college fairs, and provided limited assistance in helping students find financial aid for college. Thus, the divergent cluster is associated with a counseling opportunity structure in which the norms of the counseling department are not centered on college-going and few resources are available to facilitate the college choice process.

Approximately 59 % of the schools in the analytic sample were located in cluster 2, which we labeled as "emergent" in terms of the underlying counseling opportunity structure. Schools in this cluster showed relatively higher overall conditional probabilities in relation to the percentage of hours devoted to college preparation, although these schools were associated with the highest average counseling caseloads. Further, these schools showed a relatively higher propensity in relation to emphasizing college preparation as a primary goal compared to the emergent cluster, although the conditional probabilities were still relatively low. In terms of resources, these schools had a moderate propensity to offer courses at four-year colleges, but very high propensities in relation to college fairs and financial aid assistance. Thus, we see these schools as having beneficial resources to offer students in the college choice process, but from a normative perspective, they have not yet fully developed a counseling department that places a high priority on college-going.

Roughly 35 % of the schools fell within the third cluster, which we labeled as "convergent" in relation to the counseling opportunity structure. These schools appear to have relatively high conditional probabilities in relation to both the percentage of hours they devote to college preparation and the overall emphasis they place on college preparation within the counseling department. Additionally, these schools have lower average counseling loads compared to the emergent cluster and a high likelihood of offering a range of resources related to the college choice process. Thus, these schools have norms and resources that suggest a more optimal environment for facilitating college-going behaviors.

The final stage of analysis allowed for a deeper examination of each of the school clusters to better understand how they differ across a number of school characteristics (see Table 5). The emergent cluster, for instance, had a higher percentage of public schools (93.4 %) compared to the divergent (28.1 %) and convergent (54.4 %) clusters. The divergent cluster had a higher percentage of schools located in suburban areas (38.6 %) compared to the emergent (17.5 %) and convergent (28.9 %) clusters. The emergent cluster also contained the largest percentage of schools located in rural areas (44.6 %), whereas the divergent cluster had the largest percentage of schools located in suburban areas (38.6 %). In terms of school types, the divergent schools contained the smallest percentage of regular schools (73.2 %) and the highest percentage of charter (16.1 %) and alternative/vocational schools (10.7 %). Further, the convergent schools had the highest percentage of magnet schools (7.8 %) compared to the other two clusters.

In examining population characteristics, the emergent schools were associated with the highest percentage of students on free or reduced lunch (47.0 %), whereas the convergent schools had the highest percentage of students enrolled in AP courses (17.5 %). While no significant differences were found in relation to the percentage of non-White students, significant differences were found in terms of college-going rates: divergent (21.7 %),

Table 5 Descriptive differences in school indicators across clusters (weighted $N = 23{,}022$)

	Cluster 1: divergent	Cluster 2: emergent	Cluster 3: convergent	Test statistic
School characteristics				
Public	28.1	93.4	54.4	$\chi^2 = 237.969$***
Private	71.9	6.6	45.6	
City	19.3	18.4	26.4	$\chi^2 = 56.442$***
Suburban	38.6	17.5	28.9	
Town	28.1	19.5	9.4	
Rural	14.0	44.6	35.2	
Regular	73.2	92.3	86.7	$\chi^2 = 75.712$***
Charter	16.1	2.3	5.5	
Magnet	0.0	1.9	7.8	
Alternative/vocational	10.7	3.5	0.0	
School Population				
% free/reduced lunch	19.548[b]	46.974[a]	21.425	$F = 134.432$***
% enrolled in AP courses	0.505[ab]	9.227[a]	17.472	$F = 59.130$***
% non-White students	29.997	32.468	28.831	$F = 1.447$
% Attending 4-year college	21.669[ab]	35.296[a]	78.504	$F = 737.136$***
School Norms				
Frequency of violence	1.872[b]	2.258[a]	1.800	$F = 101.297$***
Severity of school problems	1.880[ab]	2.231[a]	1.603	$F = 148.514$***

HSLS: 09 restricted data

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

[a] Significantly different from convergent cluster

[b] Significantly different from emergent cluster

emergent (35.3 %), and convergent (78.5 %). Finally, in terms of school norms, the emergent schools were associated with the highest levels of violence and most severe school problems compared to the divergent and convergent clusters.

Discussion

High school counselors play a critical role in college attainment (McDonough 2005a), but historically they have remained in the shadows. On the national level, President Obama's (2009) challenge that every American complete at least 1 year of college or vocational training by the year 2020 puts a national focus on college readiness and access, thereby pushing to the fore the importance of counselors (Lederman 2009). The Pathways to College Act, bipartisan legislation proposed initially in the 111th Congress, highlights the unique and important role that counselors play in both academic achievement and college access (NACAC 2010b) and is reflective of the changing times. Unfortunately, most schools do not have a systemic means of distributing college and financial aid information to students, and even fewer help students understand the relevance of academic preparation in the college process (Bell et al. 2009).

In response to the increasing attention placed on high school counselors to facilitate college access, this study sought to examine the relationship between the counseling opportunity structure and the college-going culture of American high schools. Using a nationally representative data set, we examined the relationships between the norms (e.g., average caseload, hours spent on college counseling) and resources (e.g., financial aid assistance, postsecondary relationships, college fairs) of counseling departments and the four-year college-going rates of high schools, taking into account important aspects of the larger high school organizational habitus. The results provided important information about the relative contributions of the school and counseling environments and the ways in which they interact with one another, while providing a catalyst to develop a larger typology of schools in relation to the norms and resources of the counseling department.

Using a multiple regression technique based on imputed and pooled datasets, our analytic model explained approximately 54–58 % of the variance in four-year college-going rates, of which 11–12 % was accounted for by counseling-specific variables. This suggests that the larger organizational habitus of a high school is an important determinant of the college-going culture, but that the counseling department also functions as an important intermediary in enhancing college opportunities. Several aspects of the high school organizational habitus were significantly related to a school's average four-year college-going rates, including private and magnet schools compared to public and regular schools, respectively. Current research has shown that only one-third of counselors in public schools report they are successful in building a college-going culture versus more than three-fourths of counselors in private high schools (Bridgeland and Bruce, 2011). Additionally, counselors working in private college preparatory schools typically have responsibilities focused solely on college counseling (McDonough 2005a). Students attending city magnet schools are also associated with perceiving more encouragement and support for college attainment compared to their non-magnet counterparts (Siegel-Hawley and Frankenberg 2011).

We also found a significant, positive relationship between the percentage of students enrolled in AP courses and the average four-year college-going rates of a high school, reinforcing the importance of academic preparation in increasing the likelihood of four-

year college enrollment (Bastedo and Jaquette 2011; Engberg and Wolniak 2010; Engberg and Allen 2011). Schools with higher percentages of students on free or reduced lunch, however, were not significantly associated with lower, four-year college-going rates. This finding is contrary to other studies that have used nationally representative data from the national educational longitudinal study (NELS) and educational longitudinal study (ELS) and shown that the average socioeconomic status of a high school (based on indices and individual variables related to parental attainment, household income, and parental occupation) was a positive and significant predictor of an individual's likelihood of attending a four-year postsecondary institution (Engberg and Wolniak 2010; Perna and Titus 2005). The differences noted in the current study may be due to the use of free/reduced lunch as a proxy for a school's socioeconomic status, the veracity of reporting from schools participating in the HSLS: 09 survey, imputed errors associated with the replacement of the dependent variable, or other competing controls used in the analytic model. Finally, we found important evidence that the learning environment of a high school can inhibit the actualization of college plans, particularly when the environment is prone to violence and a host of school-related problems (e.g., tardiness, absenteeism, and dropout rates). Studies have shown that the learning environment has lasting effects on students' performance that manifest in the first year grades of college students (Wolniak and Engberg 2010).

Most important to the study, we found evidence that both the norms and resources of the counseling department are significantly related to the four-year college going rates of a high school. Both the percentage of hours spent on college counseling (i.e., 11–20 % of hours compared to over 50 % of hours) as well as the average caseload of a high school were significantly related to the college-going culture of a school. Schools that spend more time on college counseling are associated with higher four-year college-going rates, which emphasizes the importance of having a dedicated college counseling staff or dedicated hours among general staff to devote to college planning activities and advisement (Bell et al. 2009). The finding that higher average caseloads are associated with higher four-year college-going rates is quite perplexing at first glance, especially given research that shows high ratios can impede a counselor's ability to conduct outreach to students and parents (Perna et al. 2008; McDonough 1997, 2005a). In performing additional analyses related to this finding, including the latent class analysis used in this study, we uncovered the presence of a number of "divergent" schools with seemingly low average counseling caseloads (i.e., average of 33:1) but virtually no emphasis placed on college-going as evinced by low averages in relation to other counseling norms and resources and four-year college-going rates below 22 percent. Further, we noted appreciably lower average caseloads in "convergent" schools, which had college-going rates of approximately 79 %, compared to "emergent" schools, which had college-going rates of approximately 35 % (average caseloads of 228:1 in convergent schools compared to 323:1 in emergent schools). Thus, we believe counseling caseloads must be examined in conjunction with the allocation of time toward college-related tasks as well as the primacy of college preparation among the larger goals of a counseling department.

In addition to normative considerations, we found a number of counseling resources that significantly influenced four-year college-going rates. Resources relegated toward financial aid assistance, college fairs, and course-taking opportunities at four-year colleges all increased the percentage of students attending four-year colleges. These resources are aligned with many of the important functional areas highlighted in previous research on college counseling (Hill 2008), and reinforce the importance of informational resources

and access to social networks in facilitating the college choice process (Engberg and Wolniak 2010; Perna 2006). Surprisingly, we found a negative association between counselors who arrange college visits and four-year college-going rates. While this finding appears to be counterintuitive at first glance, further investigation revealed that such visits had a significant and positive effect on two-year college-going rates. Thus, we reasoned that counselors typically target these visits to local community colleges, which would largely explain the negative finding in relation to four-year college-going. This also highlights the gatekeeping function of college counselors, and how their actions may serve to delimit opportunity in certain schools by promoting two-year colleges over and above other college options (McDonough 1997).

Based on the regression findings, we used latent class modeling to develop a larger typology of schools based on the norms and resources that produced significant effects on four-year college-going rates. We found evidence for a three-level typology, which we labeled as divergent, emergent, and convergent in relation to the counseling opportunity structure. Divergent schools were identified as schools with a limited focus on college preparation and few resources devoted to facilitating college opportunities. Emergent schools, however, were more equipped with available resources but still lacked a strong focus on college preparation. Convergent schools were associated with a strong focus on college preparation and an ample supply of resources to facilitate the college choice process.

While these categories parallel the earlier research of Hill (2008), who identified a typology based on traditional, clearinghouse, and brokering schools, we chose a new naming convention based on several differences between our study and Hill's earlier work. In Hill's study, for instance, the normative dimension was defined solely on the level of outreach to parents in relation to the college choice process, whereas we examined average caseloads, hours devoted to college preparation, and the primary goal of the counseling department. Further, Hill's sample was based on urban schools and was therefore less representative of the larger population of American high schools. Finally, our nomenclature was designed to emphasize the developmental progression in creating a counseling opportunity structure, and the typology expresses schools that "diverge" from that mission, have elements that suggest an emergent structure, and those that clearly converge on the necessary normative and resource dimensions that undergird a strong college-going culture.

When examining our typology in relation to different school characteristics, we found that the divergent schools were primarily private, found most often in suburban areas, and contained the highest percentage of charter and alternative/vocational schools. Additionally, these schools had the lowest percentage of students enrolled in AP courses and the lowest average four-year college-going rates. Additional analyses suggest that these schools tend to be smaller, more religiously affiliated, and more focused on the personal development of students compared to the other school clusters. The emergent cluster primarily contained regular and public schools, and was associated with the highest percentage of students on free or reduced lunch. Emergent schools were also more prone to school problems than the other clusters and had higher levels of violence than convergent schools. Finally, the convergent schools contained the highest percentage of magnet schools and students enrolled in AP courses and a relatively even mix among public and private schools. Likewise, these schools were associated with the least amount of school problems and the highest overall four-year college-going rates.

Implications

Hill (2011) emphasized the importance of counselor initiated outreach rather than assuming that information distributed en masse reaches all intended audiences. However, to do this high school counselors must have the opportunity to develop a college counseling knowledge base and the requisite skills necessary to develop a meaningful college counseling program (Bryan et al. 2011; McDonough 2005a). Unfortunately, too many high school counselors lack training in college related topics with many experiencing more training in mental health issues than college counseling (Bridgeland and Bruce 2011; McDonough 2005a). It is imperative that counselor education programs address more than just the social and emotional challenges of working with students and also equip them with the tools necessary to help students and parents both understand and interpret information about college admissions and financial aid.

As a microcosm of the overall school habitus, the counseling departments plays a critical role in both developing and sustaining the college-going culture. Research has consistently shown the negative effects of large counseling caseloads on counselors' ability to guide students and parents through the college process (McDonough 1997, 2005a). We do not purport that caseload size is irrelevant, but rather that it cannot be examined in isolation. The overall goal of the counseling department, coupled with the amount of time allocated to college counseling activities, must also be considered. We also recognize that college counselors play an important role in the personal and academic development of students and that a college-for-all mentality may overlook the more immediate vocational needs of some students. We believe, however, that all students deserve access to college information and that intentional steps are needed to provide students with the resources needed to make informed college choice decisions—without such information, the counseling opportunity structure will likely delimit the range of opportunities available to students, contributing to the talent loss most prevalent among under-represented student groups (Engberg and Allen 2011).

Myriad factors outside the purview of the counseling office, such as school climate (specifically related to violence) and student attitudes and behaviors toward school also influence the school habitus. While not directly responsible for working with students, building and district administrators must recognize their responsibility in ensuring that the school community both promotes and supports college access for all of its students (Perna et al. 2008). By taking a closer examination of the underlying counseling opportunity structure of a school, administrators will be better positioned to allocate resources and advance normative values that enhance the college-going culture of their schools. Improving the counseling opportunities afforded to students remains a significant and malleable factor in the college choice process, particularly for underserved students, and must be understood as a critical dimension of any comprehensive college access strategy.

Appendix

See Table 6.

Table 6 OLS regression results predicting four-year college-going rates (weighted $N = 16{,}954$)

	Beta coefficients						
	Impute 1	Impute 2	Impute 3	Impute 4	Impute 5	Pooled	Pooled SE
School characteristics							
Public (private)	−13.512***	−13.668***	−14.835***	−14.165***	−13.532***	−13.942***	3.123
City (suburban)	4.423	5.274*	4.425	4.672*	5.066*	4.772*	2.379
Town (suburban)	−0.277	0.045	−0.339	−0.418	−0.028	−0.203	2.522
Rural (suburban)	−0.469	−0.128	0.128	−0.098	−0.548	−0.223	2.234
Charter (regular)	5.364	6.468	6.649	6.291	5.380	6.030	3.864
Magnet (regular)	15.185***	18.632***	15.296***	16.695***	16.980***	16.558***	4.328
Alternative/vocational (regular)	−9.935*	−9.966*	−9.846*	−9.900*	−9.885*	−9.906*	5.044
School population							
% Free/reduced lunch	−0.207***	−0.241***	−0.211***	−0.211***	−0.216***	−0.217***	0.049
% Enrolled in AP courses	0.260***	0.210**	0.240***	0.257***	0.233***	0.240***	0.069
% non−White students	0.009	0.016	0.013	0.007	0.011	0.011	0.033
School norms							
Frequency of violence	−6.145**	−6.270**	−7.334***	−6.613**	−5.981**	−6.468**	2.160
Severity of school problems	−9.321***	−8.038***	−7.840***	−8.360***	−9.397***	−8.591***	2.108
Counseling norms							
Average caseload	0.013	0.017*	0.021**	0.020**	0.014*	0.017*	0.008
% Hours on college 0–10 (>50%)	−9.648**	−11.739***	−11.387***	−11.714***	−11.815***	−11.261***	3.451
% hours on college 11-20 (> 50%)	−11.850***	−12.898***	−13.473***	−13.508***	−12.195***	−12.785***	3.271
% Hours on college 21–50 (>50%)	−4.485	−4.971	−4.133	−5.183	−6.148*	−4.984	3.186
Primary goal: college prep	4.685**	4.118**	3.817*	3.029	4.287**	3.987*	1.732
Counseling resources							
Courses not offered by school available at four-year college	8.332***	6.230***	8.215***	8.211***	6.520***	7.502***	1.955
School holds/participates in college fairs	8.332***	8.844***	6.969**	8.940**	8.580***	7.998**	2.737

Table 6 continued

	Beta coefficients						
	Impute 1	Impute 2	Impute 3	Impute 4	Impute 5	Pooled	Pooled SE
School consults with postsecondary reps about requirements and qualifications	4.841	3.021	2.645	4.093	4.146	3.749	3.204
School organizes student visits to colleges	−5.619**	−6.290***	−5.792***	−4.939**	−5.697***	−5.667**	1.786
School holds college info session for students or parents	4.540	4.812	2.908	0.812	4.814	3.577	3.204
School assists students with finding financial aid for college	16.667***	16.530***	15.661***	15.143***	17.000***	16.200***	3.199
R^2 based on school effects only	0.455***	0.456***	0.454***	0.459***	0.455***		
R^2 based on school and counseling effects	0.577***	0.581***	0.576***	0.575***	0.571***		

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