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Can High Schools Reduce College Enrollment Gaps with a New Counseling Model?

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Abstract

Despite planning to attend college, disadvantaged students enroll in two-year or less selective colleges at disproportionately high rates. Beyond cost and academic achievement, previous research finds that a lack of college-related social capital poses barriers. However, little research investigates whether schools can change students' social capital. The researchers examine whether, how, and for whom a new counseling model aimed at creating social capital improves college enrollment. Following nearly all Chicago public school seniors through the fall after high school, they find that coaches improve the types of colleges students attend by getting students to complete key actions, with the most disadvantaged students benefiting. This suggests that targeting social capital might improve the high school-to-college transition for disadvantaged students.

INTRODUCTION

Although the opportunity to attend college has dramatically increased over recent decades, the college choice process continues to reinforce existing patterns of social stratification. Nearly all graduating seniors, irrespective of family income, race, or ethnicity, plan to attend college (Berkner & Chavez, 1997). However, disadvantaged students plan and enroll in two-year or less selective colleges at higher rates (author's calculations using NELS), and these types of colleges are associated with lower educational attainment and earnings (Dougherty, 1994; Hoekstra, 2009; Long, 2008; Melguizo, 2008; Pascarella & Terenzini, 2005; author, 2009). Most research focuses on college cost and academic achievement as explanations for SES differences in college enrollment, but neither completely accounts for differences. Increases in financial aid do not always increase the college enrollment of disadvantaged students (Hansen, 1983; Kane, 1999; Mundel, 2008), and at every achievement level, low-SES students attend four-year colleges at lower rates (Plank & Jordan, 2001).

Successfully navigating the complex and unpredictable procedures of four-year college applications and financial aid requires students to make plans and take actions (Roderick, Nagaoka, Coca, & Moeller, 2008) that in turn depend on certain social resources (college knowledge, skills, assistance, and social support). These social resources, referred to here as in previous literature as forms of "social capital," are more readily available to middle-class students. Lacking college-related social capital can pose additional barriers to four-year colleges for disadvantaged students (Avery & Kane, 2004; author, 2010; Bloom, 2007; Lareau & Weininger, 2008; McDonough, 1997; Tierney, 2009). While recent research documents SES differences in college-related social capital, almost none has considered whether and how schools may change it to improve college enrollment outcomes. This study examines a new

model of college advising (the college coach program) designed to provide college-related social capital to students and analyzes whether, how, and for whom it may reduce gaps in the college enrollment process.

Following nearly all graduating seniors in Chicago Public Schools (CPS) from senior year through the fall after high school, this research shows gaps in the enrollment process that previous research has rarely discussed. Then, using a difference-in-differences approach and a variety of controls including prior trend data, we test whether the onset of the coach program is associated with subsequent changes in students' college actions and enrollment and whether, contrary to a typical finding of cumulative advantage (the rich get richer), it can benefit the most disadvantaged students.

In the remainder of this section, we review social capital barriers in the enrollment process, the constraints that counselors face in assisting students, and how the college coach program attempts to overcome some of these constraints. Then, after a discussion of methods, we analyze whether the coach program improves college enrollment outcomes.

Social Capital Barriers and the College Enrollment Process

American public schools have the ambitious goal of providing equal opportunity regardless of family background. Although policymakers recognize the need to provide academic enrichment and financial aid, more subtle barriers are often not recognized or addressed. College knowledge, parental involvement, and social support are forms of social capital that are more accessible to middle-class families and that influence students' college choices (González, Stoner, & Jovel, 2003; Pérez & McDonough, 2008; Perna, 2000; Plank & Jordan, 2001).

College-related social capital is often not available to students whose parents have not attended college. Low-SES or minority students have less information about college cost

(Grodsky & Jones, 2007; Kirst & Venezia, 2004), college requirements (Kirst & Venezia, 2004), admissions exams (Walpole, et al., 2005), and differences in institutional types and degrees (author, 2008; author, 2009). While nearly all seniors state plans to attend college (Berkner & Chavez, 1997), low-SES students may be less confident about their plans (Bloom, 2007; author, 2009), often assume all colleges are the same (McDonough, 1997; author, 2009), and tend to view achievement as an immutable fact (McDonough, 1997; Walpole, et al., 2005). While the parents of low-SES students generally support their children's educational aspirations (González, et al., 2003; Lareau & Weininger, 2008; Stanton-Salazar, 2001), middle-class parents more often provide specific college knowledge or help, including information about admissions requirements, assistance with applications, (Bloom, 2007; Kirst & Venezia, 2004; Lareau & Weininger, 2008; McDonough, 1997), monitoring the completion of tasks (Lareau & Weininger, 2008; McDonough, 1997), and taking primary responsibility for planning college financing (Bloom, 2007; McDonough, 1997). Having college-related social capital is correlated with an increased likelihood of considering and being admitted to four-year or more selective colleges.

Can High Schools Provide College-Related Social Capital?

If families cannot provide college-related social capital, schools may be able to help, but students' needs are great and school resources limited. Providing detailed help related to financial aid can make a difference (Bettinger, Long, Oreopoulos, & Sanbonmatsu, 2009), but schools face many constraints. The average student to counselor ratio is high at urban high schools (318 to 1; Parsad, Alexander, Farris, & Hudson, 2003), and counselors' heavy work loads are often packed with non-counseling duties (Moles, 1991; Parsad, et al., 2003; Powell, Farrar, & Cohen, 1985). Moreover, the standard counseling model may make it difficult to serve students with the greatest needs for help. In the standard model, counselors provide help one-on-

one and at the request of students. While this model may work fine in elite high schools, it is problematic when student-to-counselor ratios and student needs are both high. Low-SES students often require more detailed assistance, but counselors with large caseloads have little time to meet individually with students. Moreover, a model that requires student initiative to receive help can fail to reach disadvantaged students, who can be uncomfortable seeking out or receiving help or may not know when they need help (Bloom, 2007; author, 2009; Stanton-Salazar, 2001). While counselors could conceivably address social capital barriers, constraints on counselors coupled with the standard counseling model may result in many disadvantaged students being poorly served.

Pre-college outreach programs (e.g., Upward Bound, AVID, Puente, I Have a Dream) have developed to provide supplemental assistance. Most outreach programs provide college advising and help develop students' academic skills; many offer assistance with college and financial aid applications; and, a significant number provide scholarships (Gándara & Bial, 2001; Perna & Swail, 2001; Schultz & Mueller, 2006). In addition to being broader in content and goals than high school counseling, outreach programs use a wider variety of advising strategies. Some programs use a one-on-one counseling approach, but others (e.g., Posse, Puente) focus on groups as a way to build social support for college (Gándara & Bial, 2001; Grubb, Lara, & Valdez, 2002). Most programs focus on building relationships over time between staff and students [e.g., I Have a Dream; Kahne & Bailey (1999)], although others have little personal contact with students and instead provide scholarships (e.g., Indiana 21st Century Scholars program). Many outreach programs have been found to increase college-going, overall or for the most disadvantaged students (Gándara & Bial, 2001; Kahne & Bailey, 1999; Myers, Olsen, Seftor, Young, & Tuttle, 2004). However, these programs limit which students they serve.

Unlike counselors who aim (though not always successfully) to serve all students, the vast majority of outreach programs select students based on socioeconomic status or race/ethnicity and often also on academic achievement or staff recommendations (Gándara & Bial, 2001; Schultz & Mueller, 2006). While outreach programs are important for individual students, they are not meant to "fundamentally change the ways schools interact with students" (Gándara & Bial, 2001, p. x). Outreach programs serve an important role for some students, but they are not an alternative to counseling.

Another model may be necessary. In a qualitative study of peer counseling groups organized around college enrollment, Tierney and Venegas (2006) suggest that social capital is an important resource for improving college enrollment outcomes. They hypothesize that schools may be able to improve college enrollment outcomes for disadvantaged students by intentionally creating peer groups around college and providing an adult with college knowledge who interacts frequently with students. Prior work (author, 2010; Naffziger, 2011) describes in detail one counseling model, the College Coach program, which attempts to do these things. Here, we test the impact of this new counseling model on college enrollment outcomes.

The College Coach Program

Background and Goals of the Coach Program

In 2004-2005, CPS introduced the college coach program to a diverse group of twelve non-selective high schools. One coach was assigned per school and charged with improving students' college enrollment by providing help in the enrollment process (not academic or monetary assistance). The district encouraged coaches (and counselors) to focus on increasing the number of students attending four-year colleges (because of low graduation rates at local two-year colleges)[1] and to focus on the completion of key college actions that are particularly

important for four-year college enrollment: applying to multiple colleges, completing the Free Application for Federal Student Aid (FAFSA), and applying for scholarships.

While the district directs both coaches and counselors to focus on the same goals, there are important differences between coaches and counselors. First, coaches and counselors differ in their professional backgrounds. Public high school counselors are school professionals, who must meet state educational and certification requirements. Many counselors identify themselves as professional psychologists (McDonough, Ventresca, & Outcalt, 2000), and their actions are guided by a psychological services model, which deals with clients individually and at the initiative of the client. In contrast, coaches were experienced "youth workers," hired largely because of their experience outside of schools working with disadvantaged youth. The coach program was developed and directed by an administrator with extensive community organizing experience. Similarly, most coaches had previously worked in community-based youth organizations or youth-development programs outside of schools. Unlike counselors who report to the principal, coaches reported to the program director, who was employed at the district level.

Second, coaches and counselors differ in their job tasks. Unlike most counselors, coaches organize formal college programming (e.g., college fairs, workshops, tours) and also provide on-going assistance in a college room. The college room is a space stocked with college-related literature and computers that students visit during their lunch hour or before or after school to work on the enrollment process. The college room typically also serves as the coaches' office. This arrangement encourages many spontaneous interactions between the coach and students and students and their peers around college.

Interviews with coaches and students at coach schools show that coaches have innovative (relative to typical counselors) advising strategies (author, 2010): (1) While counselors respond

to student or parent initiatives, coaches *proactively reach out* and engage students in the enrollment process. Coaches summon students to the college room, wait outside classrooms, send personalized notes, eat lunch in the students' lunchroom (which other staff avoid), and even approach students in detention (a neglected captive audience) to discuss students' future plans. (2) Coaches *build trusting relationships* with students, a potentially important precursor to serving harder-to-reach students (Kahne & Bailey, 1999; Stanton-Salazar, 2001), by demonstrating an interest in students (e.g., by attending after-school events), reducing their social distance to students, and being dependable and candid in their interactions with students. (3) Coaches *enlist students* to deliver college information to peers, to recruit peers to college activities, and to provide assistance to peers with some steps in the enrollment process. In some schools, this is formalized in a peer college counseling program. Prior research suggests that peers can play an important role in developing college-related social capital (Tierney & Venegas, 2006). (4) While counselors typically meet with students individually, coaches often *use groups*, both for formal activities (e.g., financial aid or essay writing workshops, college tours) and informally as students gather in the college room.

Coaches' strategies create or enhance students' college-related social capital. By using groups and enlisting students' peers, coaches can foster social support among students for college, a potentially important resource for disadvantaged students who can face large social and personal risks in pursuing college (Bloom, 2007). Counselors who work one-on-one with students do not have the opportunity to create social support. In addition, coaches' strategies enable them to interact more frequently with students than most counselors. Through frequent interactions, coaches can provide detailed and on-going college knowledge and assistance, which may be particularly important for disadvantaged students (Tierney, 2009). For example, unlike

many counselors who do not address financial aid or do so only minimally (McDonough & Calderone, 2006), coaches provide detailed information and help with financial aid. Coaches provide information about financial aid, help students and families actually complete the FAFSA (including explaining confusing questions), track completion of the FAFSA, and help students interpret financial aid award letters. Coaches also monitor completion of tasks in the enrollment process. In interviews, students repeatedly remarked on the multiple reminders (or nagging) that they received from coaches to complete application steps. Counselors who meet with students only a few times per year cannot provide much detailed help or monitoring. Finally, by reaching out to students and building trust, coaches appear to reach students who may not otherwise have sought out counselors' help. [See author (2010) and Naffziger (2011) for detailed qualitative analysis of the coach program].

Like counselors, coaches are based in schools; they aim to serve all students; and, they attempt to improve the transition to college based on information and assistance (not by changing academic achievement or providing money). Like some outreach programs, coaches use advising strategies that differ from those of typical counselors. Counselors are trained in a psychological services model—serving students one-on-one and at their request—but coaches act like "community organizers." Coaches proactively recruit students into the college enrollment process, use existing peer networks and create new ones to disseminate information and engage students, and serve students in groups.

METHODS

Data

This study uses data from CPS provided by the Consortium on Chicago School Research. Student data come from four cohorts (2004-2007) of all CPS graduating seniors and include

demographics, ACT scores, transcripts, responses to a senior exit survey administered in May, and actual college enrollment collected by the National Student Clearinghouse (NSC). Barron's rankings (2005) are used to classify college selectivity. The analytic sample excludes students who did not respond to the senior exit survey[2] and students at four types of schools: at charter schools, because achievement data are not available for them; at magnet schools, because unlike coach schools, they have selective enrollment; at schools that were opened or closed during the study period, to avoid issues related to restructuring; and, at one coach school with no survey data for 2004. The analytic sample has 44,627 students from 58 schools.

Analytic Approach

While coaches were assigned to a wide variety of schools, explicit random assignment was not used.[3] Instead, this analysis uses three procedures to reduce potential selection bias: a difference-in-differences design, controls for changes in the student composition of high schools over time, and controls for pre-program trends in college enrollment.

Using a difference-in-differences approach, we compare changes in college enrollment rates before and after program implementation at coach schools to the change at non-coach schools over the same time interval. This approach accounts for pre-program differences in coach and non-coach schools (in 2004) and any district-wide changes in college enrollment rates over the study period. The estimator is the coefficient associated with a dummy variable indicating whether a student attended a coach school after the onset of the program controlling for year and high school fixed effects.

A problem arises, however, if there are differential changes in student body composition over time favoring coach schools. Without controls for changes in student composition, this change would be identified as a coach effect. Instead, the analysis adds regression controls for

many student characteristics important in college choice: race/ethnicity, gender, cumulative GPA (measured in fall of senior year), ACT composite score, neighborhood social status and poverty,[4] number of vocational and AP classes taken in fall of senior year, and participation in college prep programs (Upward Bound and district postsecondary programs).

Finally, coach and non-coach schools could potentially have had different trends in college enrollment prior to program implementation. If college enrollment rates were rising at coach schools prior to the onset of the program, this trend would be expected to continue and result in an enrollment increase between 2004 and 2005-2007 even without the coach program. To construct the trend variable, college enrollment was regressed on year for each high school separately using data from 2001 through 2004, and the coefficient associated with year (the estimated linear trend) was recorded. The trend variable is the product between the estimated slope and year, which varies across high schools.[5]

The aggregate model predicts an outcome for student ***i*** in school ***s*** in year ***t*** based on individual characteristics, attending a coach school after program implementation (the interaction between coach school and post-treatment period), year fixed effects, and a school-level linear trend in college enrollment based on pre-program data (to control for possible pre-existing trends). Since the models have dichotomous dependent variables, fixed effects logistic regression (also known as conditional logistic regression) was used to estimate models that control for school fixed effects [see Allison (2005) for a detailed discussion of the technique].[6] This statistical approach controls for all (observable and unobservable) time-invariant school-level characteristics, changes in observable student characteristics, district-wide trends in enrollment over time, and differences in enrollment trends prior to implementation for coach and non-coach schools. While studying just one school district results in some loss of generalizability, some

internal validity is gained because doing so controls for district and state-level factors (e.g., college tuition, the structure of the state higher education system, and various policies) typically not controlled in national studies. Time-varying changes in unmeasured school characteristics that favor coach schools remain a threat to internal validity, but given the multiple factors accounted for, this threat may be unlikely.

While fixed effects reduce bias in the estimation of treatment effects, this approach typically leads to relatively higher standard errors because it ignores between unit variation (Allison, 2005). For this reason, we note when coefficients are borderline statistically significant, which are more noteworthy than ordinarily.

College Selectivity

This study uses Barron's rankings (2005) to classify colleges by selectivity. Four-year colleges are classified as more selective (a Barron's ranking of very, highly, or most competitive), less selective (a ranking of non-competitive, less competitive, or competitive), and unrated or special.[7] Among the institutions attended by CPS graduates, institutional graduation rates are lowest for two-year colleges (24.6 percent), higher for less selective four-year colleges (35.0 percent to 49.2 percent), and highest for more selective four-year colleges (63.9 percent to 88.6 percent). Just 7% of CPS graduating seniors who plan college enroll in more selective four-year colleges. Appendix B lists the three most frequently attended colleges for CPS students by Barron's rankings.

Missing Data

Rates of missing data on independent variables were relatively low: 13 percent missing for ACT scores,[8] 4 percent for transcripts (used for GPA and the number of AP and vocational classes), and 0.3 percent for neighborhood poverty and social status. Among students with

general college plans, less than 4 percent are missing college actions. These missing values were replaced with mean values and dummy variables were added to the regressions to indicate a missing value.

For indicators of college enrollment, CPS matches student records of graduates to the NSC database, which collects enrollment information from over 3,300 colleges (National Student Clearinghouse, 2009). Student records that match indicate a student enrolled in college. The vast majority of students without an NSC record are not enrolled in college, but others could be enrolled in non-participating institutions. Non-enrollment cannot be distinguished from enrollment that is missing because a student attended a non-participating institution. However, this may have a limited impact on conclusions. First, just 9 percent of students who reported specific plans in the spring of senior year planned to attend a non-participating institution, so missing enrollment is likely rare.[9] Second, of students who planned a non-participating institution, 63 percent planned to attend a for-profit institution and an additional 10 percent planned to attend a private institution that was previously a for-profit institution. Despite evidence that for-profit or private two-year colleges have some advantages relative to community colleges (Bailey, Badway, & Gumport, 2001; author, 2006; author, 2009), the district doubts the benefits of these institutions and may not count attending a for-profit college as a successful enrollment.

Imputing values for missing data and enrollment for students who stated plans to enroll in a non-participating institution does not change conclusions about the relationship between coaches and enrollment outcomes.

RESULTS

Description of CPS Students and their College Enrollment

CPS graduating seniors are primarily African American (52 percent) and Latino (34 percent) (Table 1), low-income (92 percent receive free/reduced price lunch), and below average academic achievers (89 percent score below the state average on the ACT). Despite financial and academic barriers, in the spring of senior year, 80 percent of graduating seniors plan to enroll in college in the fall (general college plans). However, almost half (47 percent) of students with general college plans do not actually enroll; another 20 percent enroll at two-year colleges, and 33 percent at four-year colleges. Just 7 percent enroll at more selective four-year colleges.

Two Gaps in the Enrollment Process

While most research focuses on the difference between students' college plans and their enrollment,[10] this study finds two gaps in the enrollment process: one gap between general and specific plans and another between specific plans and enrollment. While 80 percent of graduating CPS seniors stated a general plan to enroll in college in the fall, just 62 percent of students with general college plans named a specific college they planned to attend at the end of senior year (Table 1). Furthermore, 37 percent of students with a specific plan to enroll in the fall did not enroll in any college four months later. Not completing key college actions may in part explain these gaps. Among students with general college plans, 15 percent did not apply to any college by the end of senior year; 47 percent did not complete a scholarship application (even though some scholarships have no academic requirements); and, 36 percent of students did not complete the FAFSA, although nearly all would qualify (92 percent of students receive free/reduced price lunch).[11] Specific college plans do not flow automatically from general plans, and having specific plans does not guarantee enrollment. These gaps in the application process vary by student characteristics with Latino, lower SES, and non-AP students having bigger gaps (see Table 1).

In sum, although most students plan to attend college, many do not take key college actions or form specific plans by the end of senior year. If coaches are going to improve college attendance, they may need to address these intervening actions. Indeed, the district encourages coaches, as well as counselors, to increase the number of students completing key actions, and as discussed earlier, coaches have strategies that appear to allow them to do so.

Comparing Changes over Time at Coach versus Non-Coach Schools

As a first step in examining coach impacts, this analysis compares changes in coach versus non-coach schools before and after program implementation. The entire CPS school district has increasingly focused on improving postsecondary outcomes, which is reflected in some mean changes in non-coach schools (Table 2). In non-coach schools, among students with general plans, enrollment in any college and in four-year (less selective) colleges increased after 2004 (by 1.9 and 1.1 percentage points respectively), and two-year college enrollment decreased by 0.9 percentage points (discouraged because of their poor graduation rates). Over the same time period, coach schools showed even greater gains for some outcomes compared with these district-wide trends. Compared with non-coach schools, college enrollment increased more for coach schools (an additional 1.7 percentage points); enrollment at four-year colleges (less selective) increased by an additional 3.5 percentage points, and enrollment at two-year colleges fell by slightly more (an additional 0.3 percentage points). Enrollments at more selective four-year colleges, however, dropped somewhat more at coach schools than at non-coach schools (-1.0 and -0.3 percentage points respectively). In these raw comparisons, which ignore changes in school composition, enrollment outcomes appear to have improved at coach schools relative to non-coach schools except at more selective four-year colleges, a small but important segment (discussed later).

Coaches emphasize key actions and the formation of specific plans as important steps in converting general plans into enrollment. Relative to a substantial 3.7 percentage point gain in completing 3 or more college applications in non-coach schools, applications at coach schools increased by an additional 4.7 percentage points, and FAFSA completion increased by 2.6 percentage points more at coach schools. Despite a general decline in students forming specific plans (9.6 percentage points in non-coach schools, likely due to discouraging community college plans), this decline was substantially less (4.1 percentage points less) in coach schools.

These differences, however, do not control for changes in school composition. While achievement and SES changed little, the proportion of Latinos increased more in coach schools (2.5 percentage points more), which, given Latinos' gaps in the enrollment process, may have posed greater challenges to coaches.

Estimating Coach Effects Using Fixed Effects Logistic Regression

Focusing on the 80 percent of seniors with general college plans (n=35,777), regressions predict students' enrollment outcomes controlling for student characteristics, pre-program school trends in college enrollment, school and year fixed effects, and attending a coach school after program implementation (Table 3). Relative to white/other students, African Americans are more likely to enroll in college, in less selective four-year colleges versus two-year colleges, and in more selective four-year colleges. This "net black advantage" has been well-documented (Bennett & Lutz, 2008; Bennett & Xie, 2003). Latinos are less likely to enroll in college compared to white/other students, but among those who do enroll, they are more likely to enroll in four-year (less selective) colleges, controlling for other background characteristics. While women are as likely as men to enroll in college, they are less likely to enroll in four-year colleges. Men graduate from CPS at lower rates than women (46 percent versus 63 percent in

2008; Chicago Public Schools, n.d.), but men who graduate do relatively better in terms of four-year college enrollment, controlling for background characteristics.[12]

Like previous research, results show that improving academic achievement is critical for improving enrollment outcomes for disadvantaged students. GPA is a positive predictor of enrolling in college, in a four-year (less selective) college, and in a more selective four-year college. Other measures of academic achievement (ACT score and number of AP classes) positively predict all outcomes except enrolling in a two-year college (versus not enrolling).

Some measures of SES matter for some enrollment outcomes. The social status of a students' neighborhood (occupation and education status of adults in a student's residential block group), relates positively to enrolling in college and enrolling in less selective four-year colleges (versus two-year colleges). However, it is not a significant predictor of the selectivity of four-year college. Neighborhood poverty rate is not a significant predictor of any outcome.

Do schools matter beyond individual characteristics? Over the study period, the district encouraged all schools to improve college enrollment, especially attending four-year colleges (versus two-year). While college enrollment increased district-wide in 2005 and 2007 (versus 2004), the increase was not uniform, and there was a significant decline in 2006 in less selective four-year enrollment (versus two-year) in 2006 and in more selective four-year enrollment (versus less selective four-year) in 2007.

Given the district-wide emphasis on these goals, does the coach program have additional impact? Attending a coach school was associated with a 13 percent increase in the odds of attending college and a 24 percent increase in attending a less selective four-year college (versus two-year college, Table 3). As noted, while encouraging four-year college attendance, the district discouraged two-year college attendance, and indeed coaches do not increase two-year college

enrollment. Consistent with the program goals, coaches' appear to increase enrollment at less selective four-year colleges and may also increase enrollment (borderline significant).[13]

On the other hand, during this period, the coach program did not focus on increasing selective four-year college attendance, and we find there was no significant relationship between attending a coach school and enrolling in a more (versus less selective) four-year college. Attending a more selective four-year college is an important outcome. However, since few students in CPS qualify to attend a more selective four-year college (Roderick et al., 2008), and just 7 percent of CPS graduates with general college plans enroll in one, coaches' lack of impact on this outcome involves relatively few students (discussed below).

Processes Mediating Coach Effects

The district instructs schools to improve college enrollment by getting students to complete college and scholarship applications and financial aid forms. Coaches' methods for accomplishing these goals differ, however, from counselors' methods. By changing social interactions around the enrollment process, coaches create social support for the enrollment process and are able to provide detailed and ongoing help and monitoring of task completion. This social capital may increase the completion of college actions, a potentially important mediator of improved college enrollment outcomes.

Results show that the odds of completing three or more college applications were 20 percent higher for students attending coach schools and the odds of completing the FAFSA were 17 percent higher, significant at <.01 and .02 respectively (Table 4, columns 1-2). Students in coach schools were also 19% more likely to form specific plans (p= .01), a relationship that becomes insignificant after controlling for college actions (Table 4, columns 5-6). These results

suggest that coaches help students convert general college plans into specific plans by getting students to complete two college actions (3 or more college applications and the FAFSA).

Turning to enrollment outcomes, we find that, controlling for specific plans, these actions predict all enrollment outcomes (Table 4, columns 7-10). Together, actions and specific plans explain the relationship between coaches and enrollment outcomes (attending a coach school no longer has a significant impact on less selective four-year college enrollment after actions and plans are added, Table 4, column 9). In the aggregate, coaches appear to improve the type of college students choose (less selective four-year versus two-year), and may increase enrollment overall (borderline significant result) by increasing the completion of two key actions (applications and FAFSA).

Differences by Student and School Characteristics: Does the Coach Program Contribute to Cumulative Advantage?

Often universal interventions create a "cumulative advantage:" they widen gaps between privileged and disadvantaged students (Ceci & Papierno, 2005). For example, an analysis of Sesame Street's effects on children's cognitive development suggests that it widened the gap between low- and middle-SES children because of differences in viewing habits (Cook, 1975). Coaches are meant to serve all students, and they hoped to serve disadvantaged students who were less well served by the ordinary process. Can coaches impact students not typically reached by counselors? Can coaches also reduce gaps in enrollment outcomes between relatively advantaged and disadvantaged students? Coaches seek to increase students' access to college expertise by proactively reaching out to students, building trusting relationships with students, and enlisting students' in delivering help, which may give credibility to coaches' messages (author, 2010). These strategies may allow coaches to serve students who otherwise would not

seek out help. This analysis asks whether traditionally underserved students (Latino, lower SES, non-AP students, and students at low college-planning high schools)[14] benefit from the coach program, and whether they benefit relatively more than other students.

Results suggest that coaches do have benefits for students often underserved by counselors. Latino students, lower SES students, non-AP students, and students at low college college-planning high schools are more likely to enroll in less selective four-year versus two-year colleges if they attended a coach school (odds ratios of 1.86, 1.71, 1.35, and 1.56 respectively; Table 5). The odds ratios associated with the coach program for these underserved groups are significant, and they are of large magnitude. Non-AP students at coach schools may also be more likely to enroll in college (odds ratio=1.16, p-value=0.06). On the other hand, there are no significant positive relationships between coaches and enrollment outcomes for many students with typically better enrollment outcomes: white, African American, higher SES, and AP students. One group of African American students, however, appears to benefit from the coach program: lower-SES African Americans may be more likely to enroll in a less selective four-year college versus a two-year college (odds ratio=1.60, p-value=0.06). The coach program appears to benefit students typically facing the most difficulties in the application process.

t-tests comparing the coach coefficients between subgroups shows significant differences in the coach impact on less selective four-year college enrollment (versus two-year) for Latino versus African American students and possibly for lower versus higher SES students (p-value=.06) [but not for AP versus non-AP students (p-value=.46)]. In addition to benefiting more disadvantaged students, coaches appear to narrow some ethnic and SES gaps in college enrollment.

On the other hand, the coach program did not focus on improving attendance at more selective four-year colleges (versus less selective), and we find that coaches appear to lower the chances of attending a more selective four-year college (versus less selective) for African Americans (odds ratio=0.69), non-AP students (odds ratio=0.55), and perhaps those at high college-planning high schools (odds ratio=.74, p-value=0.06). This finding deserves attention. Some CPS students who would qualify for a more selective college do not attend one (Roderick, et al., 2008), and attending a more selective college corresponds with higher degree attainment and earnings, as previously discussed.

DISCUSSION

This study follows nearly all students in a large urban school district from senior year of high school through the fall after graduation. The data allow for distinct insights into the college application process for low-income and minority students. These data have many more African American, Latino, and low-income students and more detailed survey measures related to college plans and actions than national datasets. In addition, the cross-sectional panel dataset with measures before and after the onset of the coach program allows for a rigorous test of the coach program's effectiveness. This research provides a detailed picture of points of stratification in the high-school-to-college transition and how a social capital reform may reduce barriers.

The analysis finds two gaps in the enrollment process: not all students with general college plans form specific plans, and specific plans are not sufficient for enrollment. These gaps are larger for three kinds of disadvantaged students: Latino, non-AP, and lower SES students. This finding is important for school staff or researchers who sometimes mistakenly assume that specific plans at the end of senior year translate into actual college enrollment in the fall. Schools may have greater success at reducing the first gap since students are in school when they form

specific plans. However, schools may also be able to take some measures during the school year to reduce the second gap (e.g., the ways coaches help students complete actions or anticipate and plan for challenges likely to arise in the summer), or they may offer summer help to graduated seniors. These results indicate that one cannot assume the college choice process is over when the school year ends. Students face serious challenges after schools close for the summer.

College actions appear to be an important mechanism for reducing gaps in the enrollment process. Many students who have general college plans do not take actions to make college happen. While this does not preclude attending college, students who do not complete these actions risk missing key deadlines, have less access to school help, and may have fewer (and perhaps less desirable) college options. Students who complete college actions are more likely to form specific plans, and controlling for specific plans, also more likely to enroll in college, in less selective four-year versus two-year colleges, and in more versus less selective four-year colleges.

Unlike the traditional counseling model, college coaches use innovative strategies to engage new groups of students in social interactions to improve college enrollment outcomes. Coaches' strategies appear to create social capital resources, including social support in the enrollment process, detailed and ongoing help in the process, and monitoring of the completion of actions (author, 2010). Students at coach schools were significantly more likely to attend less selective four-year colleges, which have much higher graduation rates than two-year colleges,[15] and they were more likely to enroll in college (borderline significant at $p=0.06$). On the other hand, coaches have no effect on two-year college enrollment (versus no enrollment), which is not encouraged, or on more selective (versus less selective) four-year college enrollment (which was

not a program emphasis during these years). Coaches appear to affect enrollment outcomes by increasing the number of students applying to three or more colleges and completing the FAFSA.

The most surprising result is the benefits for more disadvantaged students. In many programs, the rich get richer. While coaches are charged with improving college enrollment outcomes for all types of students, coaches' emphasis on social capital may have particular benefit for students often underserved by traditional approaches (lower SES and non-AP students); students with more difficulties in the application process (Latino students); and, students from schools with a low percent of college planners (which may reflect a lack of college-going culture). Moreover, analyses suggest that coaches reduce the gap in less selective four-year college enrollment between Latinos and African Americans and possibly between lower and higher SES students. These findings support the inference that social capital deficits, not just academic and financial deficits, are barriers to college for disadvantaged students.

On the other hand, the reduced odds of attending more selective four-year colleges for some groups of students (African Americans, non-AP students, and possibly students from high college-planning high schools) are a concern, particularly since more selective colleges have higher graduation rates and earnings. We think this finding results from the program's lack of emphasis on this outcome, during the study period. If so, then it may have already changed because the program increasingly has focused on improving "college match" for higher achieving students in the last two years.[16]

More speculatively, these results may suggest support for advising procedures that improve college actions and social capital. In other words, if guidance counselors or other staff provided the kinds of procedures and affected the kinds of college actions seen in this program, they might have comparable benefits. Of course, this is only a conjecture, but it is noteworthy

because so little thought is given to alternative approaches to counseling that might better help underserved groups and their post-secondary outcomes.

Although improving access to financial aid and academic preparation are important ways to improve the college enrollment outcomes of disadvantaged students, policy research should also consider other barriers. The enrollment process itself is a mechanism of social stratification. While middle-class parents often supply the necessary knowledge, support, and monitoring for their children in the enrollment process, other children may falter on small details. Advising models that provide strong social capital in the application process, such as the college coach program, may be an additional important avenue for helping disadvantaged students to make specific plans and take the requisite college actions to improve their educational attainment.

NOTES

[1]Institutional graduation rates average just 10 percent among the two-year colleges attended by the majority of CPS graduates (based on IPEDS).

[2]Response rates were 85 percent in 2004 and over 97 percent in 2005 through 2007 for the analytic sample.

[3]*t*-tests (Appendix A) show only one mean difference across 11 school-level characteristics (coach schools have lower total enrollment). Because of the small number of schools, statistical significance testing may not be meaningful. However, the raw differences do not favor one type of school: coach schools had higher ACT scores, lower drop-out rates, and fewer low-income students but also lower graduation rates, more LEP students, and more Latinos, who have greater difficulties in the application process (Roderick et al., 2008).

[4]Social status is a neighborhood measure reflecting the occupation and education status of adults within a student's block group. Family SES and income are not available.

[5]College plans and actions were not available in years prior to 2004 and so the complete difference-in-differences models could not be estimated on prior years.

[6]In addition, we estimated models using linear fixed effects regression with a correction for clustered standard errors with and without propensity weighting that gives greater weight to students from non-coach schools that look similar to coach schools. Results were similar for most outcomes and most subgroups. We present the fixed effects logistic regression because the dependent variables are binary and not continuous [see Allison (2005), Melguizo (2010)].

[7]Barron's designates colleges as special if their admissions criteria are not primarily academic, for example institutions that specialize in art (*Barron's Profiles of American Colleges 2007*, 2006).

[8]As part of Illinois state accountability, all juniors take the ACT.

[9]This calculation is based on a comparison of CPS survey responses to a list on the NSC website indicating when an institution began participating.

[10]See Roderick et al (2008) for an important exception.

[11]Undocumented students cannot receive federal financial aid. While CPS does not record students' immigration status, using estimates from Roderick et al (2008) suggests fewer than 8 percent of students were undocumented.

[12]Nationally, women are equally or more likely to enroll in four-year colleges than men, after adjusting for background characteristics (Perna, 2000; Plank & Jordan, 2001).

[13]Because fixed effects ignore between unit variation, standard errors are relatively large (Allison, 2005), and therefore borderline significant results are more noteworthy than ordinarily.

[14]Defined as a school with a below median percent of students stating general college plans in spring 2004 (prior to the coach program).

[15]We are not suggesting that four-year colleges are the only or even the best option for all students, but shifting enrollments from two-year to four-year colleges was a goal of the coach program.

[16]Other possible explanations for this result could be: (1) Coaches may simply lack the time to help all students and reason that spending a great deal of effort helping a small group of students qualified to attend more selective colleges (which have more time-consuming applications) would take time away from helping the majority of students who qualify for less selective colleges. (2) Because coaches serve students in groups, they may talk more about the types of colleges that most students attend (just 7 percent of students attend more selective four-year colleges; Table 1). Discussing the complex procedures for more selective colleges may

discourage or confuse students considering less selective ones. (3) The negative effect for non-AP students, could suggest that coaches intentionally discourage more selective four-year colleges for students they consider to have "unrealistic" plans. (4) Coaches may focus closely on the fit between a student and a college on dimensions other than college selectivity. (5) Coaches may recommend less selective colleges to students believing that such colleges will offer students more financial aid (Naffziger, 2011). Although the data do not allow investigation of these speculations, this negative finding raises important questions.

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