

A Review of the Role of College Counseling, Coaching, and Mentoring on Students' Postsecondary Outcomes

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Summary

- Students from lower-income families have the greatest need for college counseling, yet have the least access to counselors.
- Inadequate school finances, insufficient counselor training programs, and a lack of clarity about how school counselors should allocate their time generate barriers to effective college counseling.
- A substantial number of novel counseling, coaching, and mentoring programs demonstrate effectiveness at increasing FAFSA completion, college application, college

The limited availability of college counseling for many students, especially those from low-income families, means that advising and ready assistance with each stage of the college search and application process is lacking.¹ The research summarized in this brief indicates that the deficiencies in the quality and quantity of college

counseling available to low-income students helps to explain the differences observed in application behavior and subsequent college choices between low-income students and their more affluent peers.

Paradoxically, students from the wealthiest families probably have the least need for college counseling, yet they have the most access to counselors. These students typically attend high schools with strong college-going cultures and considerable familial knowledge of colleges and the college application process (Bridgeland & Bruce, 2011a). Furthermore, many students from wealthy families supplement school-based counseling by hiring private counselors. In the case of well-informed students, particularly those who hire private counselors, college counselors primarily serve to help fine-tune college lists and applications and, in some cases, advocate for their students in conversations with college admission officers. By contrast, college counselors who work with low-income students — when they get to do so — play a very different role, focusing efforts on issues of college affordability.

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Armed with less information about colleges than their higher-income peers, students from modest backgrounds may be at greater risk of selecting a postsecondary alternative that is not a good fit academically, financially, or socioemotionally. Lacking such information, these students instead rely on easily accessible sources such as college rankings (McDonough, Antonio, Walpole, & Xochitl Perez, 1998). Even among high school valedictorians, students from less affluent backgrounds tend to be relatively uninformed about differences in colleges' quality, the college application process, and financial aid options. Radford (2013) concludes that the differences in parental sophistication significantly limit the chances of low-income valedictorians to attend a selective college. As described below, a literal-minded response to these observations is simply to provide college counseling to students by whatever means possible. However, comprehensive counseling systems required to bridge the information gaps between lower- and higher-income students are expensive. Developing cost-effective solutions aimed at remedying the college-knowledge gaps remains a priority.

Quantifying the Problem

The American School Counselor Association (ASCA) recommends a student-to-counselor ratio of no more than 250 to 1. Yet, the average ratio of students-to-counselors across the country is nearly twice this figure —

471 to 1 — and this ratio may be even higher for students in large urban metropolitan areas (McDonough, 2005).² Further, many counselors are drawn into noncounseling, administrative activities, such as monitoring high-stakes state standardized tests and determining the master schedule (McDonough, 1997).

Nationally, the average number of students per counselor is 471, which far exceeds the recommendation of 250 by the American School Counselor Association.

Relatively few public schools are able to provide counselors dedicated exclusively to the college-planning process, although this practice is standard in private high schools. For example, a 2003 study by the National Center for Education Statistics (NCES) finds that less than half of public schools reported that guidance staff spent at least 20% of their work time on “post-secondary admissions and selections,” while approximately one-third of these schools reported that guidance staff spent at least 20% of their work time on attendance, discipline, and other school and personal problems (U.S. Department of Education, 2003). Time use questions answered by school counselors themselves confirm these patterns (Bridgeland & Bruce, 2011b). Counselors at public schools report that postsecondary admission counseling takes up 22.3% of their time — less than half of the time (55.6%) reported by their private school peers (Clinedinst &

Hawkins, 2009). Alarming gaps also emerge when counselor responses about time use are disaggregated by the size of their student body and the proportion of students eligible for free and/or reduced-price lunch.

Barriers

The primary barriers to more widely available and effective counseling are rooted in school finances, counselor training programs, and competing demands for counselors' time.

Financial Barriers

At the school level, the primary barriers to adequate provision of counseling are financial. School districts continue to face a funding crunch, and many districts have responded by eliminating counselor positions or by maintaining the status quo with prohibitively large student-to-counselor ratios. Examining counseling activities in 15 public schools serving students of varying average levels of socioeconomic status, Perna, Rowan-Kenyon, Thomas, Bell, Anderson, and Li (2008) find that all schools face counseling resource constraints, but such constraints are most severe at lower-income schools.

Counselor Time and Training

Another barrier is a lack of clarity about the school counselor's role in providing college counseling. In their study of counseling in Chicago Public Schools, Lapan and Harrington (2010) provide qualitative evidence on how and why school counselors are pulled away from

guidance activities like college counseling. Specifically, they cite confusion about the school counselor role by some principals and counselors themselves as well as the overburdening of counselors by clerical and administrative tasks, especially in high poverty schools. A related barrier is the apparent increase in counselor workload that has resulted from the accountability requirements imposed by No Child Left Behind, with new administrative burdens of testing, reporting, and complicated course assignments for students who have not passed relevant tests.

The nature of most counselors' pre-service training means that many school counselors lack training related to implementing college and career readiness programs (Laturno, Hines, Lemons, & Crews, 2011). Further, counselors are not trained specifically in financial aid procedures and, as a result, often provide only superficial assistance when they do discuss financial aid with students from low-income families (McDonough & Calderone, 2006). It should come as no surprise that many students, even the highest achievers, report dissatisfaction with school counselors when asked about assistance they received from their counselor in the college-going process (Radford, 2013). A retrospective survey of 22- to 30-year-olds (Johnson, Rochkind, Ott, & DuPont, 2010) provides perspective on what students' experiences are with their school-based counselors. Nearly 60% of respondents who pursued postsecondary education rated their

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school counselor as “fair” or “poor” in providing advice on college options and how to pay for college. Roughly half of respondents reported they felt like “just another face in the crowd” to their high school counselor(s).

Once again, however, counseling is just one source of information and student support in the college search and application process. More generally, the primary barrier to success for low-income students is their lack of prior experience and sophistication in understanding and interpreting their college options. Low-income students, especially recent immigrants and first-generation college students, tend to lack connections to people who have attended four-year colleges, and they may attend high schools where few of their peers are navigating the college application process on the timeline required for entry into selective colleges.

Potential Solutions

One set of solutions provides additional funding and infrastructure for college counseling, often in the public schools themselves. Other solutions provide the necessary counseling in other forms, including in nonprofit programs that provide after-school services.

Preserve and Increase School Counselor Staff

Hurwitz and Howell (2013) quantify the effect of an additional high school counselor on four-year college enrollment and provide support for

reducing the student-to-counselor ratio. They find that an additional high school counselor is predicted to induce as much as a 10 percentage point increase in four-year college enrollment. Several descriptive analyses of longitudinal data sets also find strong relationships between student interactions with school counselors and college outcomes. Bryan, Moore-Thomas, Day-Vines, and Holcomb-McCoy (2011) find associations in the Education Longitudinal Study (ELS) of 2002 between the number of counselors in a school and college applications and enrollment. Plank and Jordan (2001) use National Education Longitudinal Study of 1988 data to find an association between use of counselors by students and initial four-year college enrollment. Belasco (2013) uses ELS data to come to a similar conclusion — after matching students on observables, those students who are more likely to see a counselor are also more likely to go to college.

Numerous studies have established both correlational and causal relationships between smaller student-to-counselor ratios and improved postsecondary outcomes for students.

Finally, Radford and Ifill (2013) examine data from the High School Longitudinal Study of 2009 and conclude that early contact with a school counselor by first-generation students is positively associated with college planning, taking a college entrance exam, and believing that college is

affordable. All of this evidence clearly points to the benefits of decreasing existing student-to-counselor ratios. Unfortunately, this ratio has been trending in the opposite direction.³

Nationwide Counseling Programs

Several examples of programs implemented on a large scale are designed to address many of the barriers discussed above simultaneously. Federally funded TRIO programs provide counselors in schools (e.g., Talent Search) or out of school (e.g., Upward Bound) to supplement existing counseling staff. Both Talent Search and Upward Bound have undergone rigorous evaluation by Mathematica. The evaluation of the Upward Bound Program, which relied on a randomized controlled trial, found that Upward Bound had no detectable effect on the rate of overall postsecondary enrollment or the type or selectivity of postsecondary institution attended for the average eligible applicant (Seftor, Mamun, & Schirm, 2008). The evaluation of Talent Search utilized administrative data from Florida, Indiana, and Texas and a matching procedure to create synthetic control groups of students for comparison to the students in the program in each state. The Talent Search evaluation revealed stronger positive results: Talent Search participants were between 14 and 28 percentage points more likely than comparison group students to complete financial aid applications, and between 6 and 18 percentage points more likely to enroll in college immediately after high

school (Constantine, Seftor, Martin, Silva, & Myers, 2006). The college enrollment gains among Talent Search students were larger and more statistically robust for enrollment in two-year than in four-year institutions.

Rigorous evaluations of several TRIO programs have yielded mixed empirical results; no detectable impact was found for Upward Bound, while Talent Search participants were more likely to apply for financial aid and enroll immediately after high school graduation than peers in a control group.

The Expanding College Opportunities (ECO) project by Hoxby and Turner (2013) is an example of a cost-effective intervention aimed at improving academic match. Based on data from the College Board and ACT that allowed the authors to identify high-achieving, low-income students around the country, students were mailed semi-customized information on the application process and college net costs in combination with “no-paperwork” college application fee waivers. ECO participants submitted more applications and were admitted both to more colleges and to more selective colleges compared to a control group. Based on the most selective college where each student was admitted, ECO participants were admitted, on average, to colleges with a median SAT[®] score that was 21 points higher than the median SAT score where comparison group students were admitted. The intervention also affected

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college choice, with ECO participants significantly more likely than nonparticipants to enroll in institutions that matched their academic credentials. ECO is especially important for several reasons, primarily its low cost after initial setup of \$6 per participant. Since this program combined a form of college counseling (a semi-specialized college list highlighting graduation rates and net costs of listed colleges) with fee waivers, it might not identify the effect of counseling itself. On the other hand, since counselors are usually required to sign fee-waiver forms to validate that the student named on the form is eligible for a waiver, it is also possible to interpret ECO as a pure study of counseling.

Location-Specific Counseling Programs and Studies

The College Advising Corps (CAC) places full-time college counselors in participating schools around the country. Eric Bettinger from Stanford University and Brent Evans from Vanderbilt University have been working with the organization for several years to guide their data collection and assessment. Previous nonexperimental results are suggestive that the program has positive effects on college enrollment, with some schools seeing a double-digit increase in enrollment three years after having an adviser. In the last two years, CAC used a randomized selection mechanism to choose schools for a large-scale expansion in **Texas**, which supports a

causal assessment at the school level of the effect of the program. Preliminary results reveal schoolwide positive college enrollment effects of approximately 1.5 percentage points. Analyses also showed larger effects of 2 to 3 percentage points for Hispanic students and low-income students. Student surveys distributed in both treatment and control schools also revealed that students in schools served by a CAC adviser were more likely to have completed the FAFSA, taken the SAT, and completed an AP® course. Nonexperimental results suggest that the program has positive effects on college aspirations, planning, application, admission, and enrollment (Hornig, Evans, Antonio, Foster, Kalamkarian, Hurd, & Bettinger, 2013).

Hispanic students and students receiving free and/or reduced-price lunch are most favorably impacted by College Advising Corps advisers.

In 2004-05, the **Chicago** Public Schools introduced a school coaching program in 12 high schools, assigning one coach per school to promote college enrollment, especially in four-year colleges. Using a difference-in-differences methodology designed to approximate a randomized control trial, Stephan and Rosenbaum (2013) found that students enrolled at schools with the coaching program were 3.5 percentage points more likely to enroll in a four-year college than were students in similar Chicago public high schools that did not participate in the program.

Also operating in several **Chicago** public high schools, MDRC's College Match Program placed advisers in schools with the goal of promoting enrollment at selective colleges. Students targeted by College Match chose to attend more selective colleges and universities than a (synthetic) comparison group of academically similar students from recent graduating classes. Only 23% of 2011 College Match-targeted students intended to enroll in two-year or proprietary colleges or had unknown plans after high school, compared with 30%–40% of similar students in earlier years (Sherwin, 2012).

College coaching and advising programs implemented in Chicago public high schools successfully promoted enrollment in four-year institutions and more selective colleges.

The results of two small sample randomized trials suggest positive effects of out-of-school outreach programs. College Possible conducted a randomized trial of its two-year program for low-income high school juniors and seniors in **Minneapolis** and **St. Paul**. This evaluation finds that the program significantly increases applications to and enrollment in four-year colleges (Avery, 2013a). **Amherst College** conducted a randomized trial of its telementoring program for high-achieving, low-income students who competed in the Questbridge scholarship program but did not receive

scholarships through that program. This evaluation found that telementoring significantly increases applications to colleges ranked “Most Competitive” by Barrons, particularly those colleges that were not the most selective in that group but did not find significant effects on college choices for participants (Avery, 2013b).

In addition to promoting enrollment at (relatively) selective colleges, many programs also guide students to affordable four-year colleges. Castleman and Goodman (2014) examine the Bottom Line program in **Boston** and find that applicants who just barely meet the GPA threshold required for inclusion in the program are significantly more likely to enroll at the colleges recommended by the program and significantly less likely to enroll at colleges not recommended by Bottom Line than are applicants who fall just below the program's GPA requirement. Further, they find that the program is especially effective for students in families with a first language other than English, consistent with the view that students with less experience with the American college system can particularly benefit from college counseling.

The SOURCE program in **Los Angeles** trained advisers and matched them with high school seniors in the Los Angeles schools. The program was limited to students who had sufficient qualifications to gain admission to a public four-year college in California, and required students to apply to

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participate. Program applicants who were randomly selected to participate were significantly more likely to attend four-year public colleges than those in the control group (Bos, Berman, Kane, & Tseng, 2012).

In a randomized trial of private college counseling for low-income public school students on the Harvard Search list in **New England** and **New York City**, students were matched with nearby private school college counselors for 10 hours of one-on-one counseling. College counseling is estimated in this study to increase enrollment at colleges ranked by Barron's as "Most Competitive" by nine percentage points, though this effect was not statistically significant given the small sample size of the pilot study (Avery, 2010).

A randomized trial of near-peer advising in the **New Hampshire** public schools augmented mentoring with cash incentives, including funding to pay college application fees for participants. A unique feature of the program is that all mentoring took place late in the senior year of high school; participants were selected, in part, because they had not yet completed any college applications despite having sufficient credentials to be broadly labeled as college ready. The evaluation concludes that the program increased college enrollment by 15 percentage points for women but had no effect on college enrollment for men (Carrell & Sacerdote, 2013).

The Pathways to Education program in **Toronto** provides tutoring, mentoring, and financial incentives to at-risk students along with college application assistance for ninth-graders living in public housing. The research concludes that the program increases high school graduation rates by 15 percentage points and college enrollment rates by 19 percentage points (Oreopoulos, Brown, & Lavecchia, 2014).

A wide variety of college coaching and mentoring programs piloted in geographically diverse locations across the U.S. and Canada demonstrate potential to increase college enrollment, particularly among students from disadvantaged groups.

Many nonprofit programs now provide college counseling services, mostly in after-school programs. The National College Access Network (NCAN) is a national organization that loosely organizes these groups. Most cities have at least one active program of this sort, and many students participate in these programs each year around the country. Despite the prevalence of these nonprofit programs, few have participated in rigorous evaluations of their impact on student choices and outcomes. Because of their lack of formal affiliation with specific colleges or schools, many of these nonprofit programs lack access to data on students who do not participate, and therefore have difficulty tracking outcomes in a comparison group of

students. In addition, many well-funded programs may not wish to exert the organizational effort necessary to support a randomized evaluation, perhaps in part because of the risk that a formal evaluation is not guaranteed to yield a positive assessment of the effects of the program.

Specialized Counseling Programs

Large and significant effects were generated through FAFSA counseling that was provided by H&R Block advisers to families as part of the tax return preparation services they received from that company (Bettinger, Long, Oreopolous, & Sanbonmatsu, 2012). The results of this randomized control trial show a 16 percentage point increase in FAFSA completion for high school seniors and an 8 percentage point increase in the probability of enrolling in college for at least two of the first three years after high school graduation. Further, the advisers in this study only provided help with the FAFSA, suggesting that counseling that combines assistance on the rest of the college application process in addition to financial aid counseling could have even larger positive effects.

The uAspire program trains specialized financial aid counselors to provide part-time supplemental counseling services, especially focused on the FAFSA and identifying and selecting affordable college options, in public schools around the country. No specific study yet assesses the effect of its financial aid program counseling alone.

Specialized college counseling programs focus on those barriers that are most severe for low-income students. FAFSA counseling, when combined with assistance filling out and submitting the form, can be very effective at driving college enrollment.

Ben Castleman and Lindsay Page have conducted a set of studies related to the phenomenon of “summer melt” in which college-intending recent high school graduates fail to make the transition to college, even after applying and being accepted to college and, in many cases, after also applying for and receiving a financial aid package from one or more institutions. Castleman and Page estimate a rate of melt on the order of 10%–20% nationally, with rates higher among students from low-income backgrounds and those who would be first in their family to continue to college. They attribute this leak from the college-going pipeline to the many tasks and processes — financial, procedural, logistical — that students need to navigate in the summer between high school and college, a time period during which students typically are disconnected from both their high school and intended college, such that students lack access to formal college counseling or transitional support. Through a set of randomized trials, Castleman and Page have shown that low-cost efforts to provide students with information and support, through strategies like counselor outreach, peer mentor outreach, or even automated

text-message outreach, can yield improvements in timely college enrollment as well as college persistence several semesters later (Castleman & Page, 2014a, 2014b; Castleman, Page, & Schooley, 2014).

The provision of counseling services during the summer between high school graduation and college enrollment, when formal counseling is not readily available, improves timely college enrollment and persistence in college.

Consequences and Implications

The academic literature provides fairly strong consensus that counseling and support during various stages of the college application process can have meaningful effects on the postsecondary education choices of high school

students, especially those from low-income families. Accordingly, there has been a conspicuous increase in counseling services provided to students from federal programs and both local and national nonprofit organizations. Yet, as a result of school budget cuts and new administrative requirements, school counselors have little time to assist students with college applications, financial aid forms, and college choices. As a result, students who do not attend schools with proactive counselors and smaller student-to-counselor ratios may be at risk of falling through the cracks. The flipside of the positive effects found in the academic literature from additional college counseling is that lack of counseling is a strong explanatory factor of the failure of many qualified students to enroll in (appropriate) four-year colleges.

References

- Avery, C. (2010). "The Effects of College Counseling on High-Achieving, Low-Income Students," National Bureau of Economic Research, Working Paper #16359.
- Avery, C. (2013a). "Evaluation of the College Possible Program: Results from a Randomized Trial," National Bureau of Economic Research, Working Paper #19562.
- Avery, C. (2013b). "The Amherst Telementoring Program for High-Achieving, Low-Income Students; Results of a Pilot Study with a Randomized Controlled Trial," Harvard Kennedy School Working Paper. Retrieved from <https://research.hks.harvard.edu/publications/workingpapers/Index.aspx>.
- Avery, C., J.S. Howell, & L.C. Page (2014). "A Review of the Role of College Applications on Students' Postsecondary Outcomes," Research Brief, New York, NY: The College Board.
- Belasco, A.S. (2013). "Creating college opportunity: School counselors and their influence on postsecondary enrollment," *Research in Higher Education*, 54(7): 781-804.
- Bettinger, E., B. Long, P. Oreopoulos, & L. Sanbonmatsu, (2012). "The role of application assistance and information in college decisions: Results from the H&R Block FAFSA Experiment," *Quarterly Journal of Economics*, 127(3).
- Bos, J., Berman, J, Kane T, & F. Tseng (2012). "The Impacts of SOURCE: A Program to Support College Enrollment Through Near-Peer Low-Cost Student Advising," mimeo.
- Bridgeland, J., & M. Bruce (2011a). "School Counselors Literature and Landscape Review," New York: The College Board. Retrieved from <http://media.collegeboard.com/digitalServices/pdf/advocacy/nosca/counselors-literature-landscape-review.pdf>
- Bridgeland, J., & M. Bruce (2011b). "2011 National Survey of School Counselors: Counseling at a Crossroads," New York: The College Board. Retrieved from http://media.collegeboard.com/digitalServices/pdf/nosca/11b_4230_NarReport_BOOKLET_WEB_111104.pdf.
- Bryan, J., C. Moore-Thomas, N. Day-Vines, & C. Holcomb-McCoy (2011). "School counselors as social capital: The effects of high school college counseling on college application rates," *Journal of Counseling & Development*, 89: 190-199.
- Carrell, S. E., & B. Sacerdote (2013). "Late Interventions Matter Too: The Case of College Coaching in New Hampshire," National Bureau of Economic Research, Working Paper #19031.
- Castleman, B., & J. Goodman (2014). "Intensive College Counseling and the College Enrollment Choices of Low Income Students," Harvard Kennedy School Working Paper, RWP14-031.
- Castleman, B. L., & L.C. Page (2014a). "Summer Nudging: Can Personalized Text Messages and Peer Mentor Outreach Increase College-Going Low-Income High School Graduates?" Working Paper.
- Castleman, B. L., & L.C. Page (2014b). "A trickle or a torrent? Understanding the extent of summer "melt" among college-intending high school graduates," *Social Science Quarterly*, 95(1): 201-220.
- Castleman, B. L., L.C. Page, & K. Schooley (2014). "The forgotten summer:

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- Mitigating summer attrition among college-intending, low-income high school graduates,” *Journal of Policy Analysis and Management*, 33(2): 320–344.
- Clinedinst, M. E., & D.A. Hawkins (2009). 2009 State of College Admission. National Association for College Admission Counseling.
- Constantine, J. M., N.S. Seftor, E. Martin, T. Silva, & D. Myers (2006). “Study of the Effect of the Talent Search Program on Secondary and Postsecondary Outcomes in Florida, Indiana and Texas.” Final Report from Phase II of the National Evaluation. U.S. Department of Education.
- Horng, E.L., B.J. Evans, A. L. Antonio, J.D. Foster, H.S. Kalamkarian, N.F. Hurd, & E. P. Bettinger (2013). “Lessons learned from a data-drive college access program: The National College Advising Corps,” *New Directions for Youth Development*, Winter 2013 (140): 55–75.
- Hoxby, C.M., & S. Turner. (2013). “Expanding College Opportunities for High-Achieving, Low Income Students,” Stanford Institute for Economic Policy Research Discussion Paper. Retrieved from: <http://siepr.stanford.edu/?q=/system/files/shared/pubs/papers/12-014paper.pdf>.
- Hurwitz, M., & J. Howell (2013). “A regression discontinuity approach to the impact of high school counselors on student outcomes,” *Journal of Counseling & Development*, 93(3): 316–327.
- Johnson, J., J. Rochkind, A. Ott, & S. DuPont (2010). “Can I get a little advice here? How an overstretched high school guidance system is undermining students' college aspirations,” Public Agenda and the Bill & Melinda Gates Foundation. Available at <http://www.publicagenda.org/files/can-i-get-a-little-advice-here.pdf>.
- Lapan, R., & K. Harrington (2010). “Paving the road to college: How school counselors help students succeed.” Center for School Counseling Outcome Research, University of Massachusetts Amherst. Available at <http://www.umass.edu/schoolcounseling/uploads/TheChicagoReport.pdf>.
- Laturno, P., Hines, P., R.W. Lemons, & K.D. Crews (2011). “Poised to Lead: How School Counselors Can Drive College and Career Readiness,” The Education Trust.
- McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany, NY: State University of New York Press.
- McDonough, P., A. Antonio, M. Walpole, & L. Xochitl Perez. (1998). “College rankings: Democratized knowledge for whom?” *Research in Higher Education*, 39:5.
- McDonough, P. M. (2005). Counseling and college counseling in America's high schools. In D. Hawkins (Ed.), *The 2004-05 state of college admission* (pp. 107–127). Washington, DC: National Association for College Admission Counseling. Available at <http://files.eric.ed.gov/fulltext/ED489862.pdf>.
- McDonough, P. M., & S. Calderone (2006). “The meaning of money: Perceptual differences between college counselors and low-income families about college costs and financial aid,” *American Behavioral Scientist*, 49(12): 1703–1718.

- Oreopoulos, P., R. Brown, & A. Lavecchia (2014). "Pathways to Education: An Integrated Approach to Helping At-Risk High School Students," National Bureau of Economic Research, Working Paper #20430.
- Perna, L. W., H. Rowan-Kenyon, S.L. Thomas, A. Bell, R. Anderson, & C. Li (2008). "The role of college counseling in shaping college opportunity: Variations across high schools," *Review of Higher Education*, 31(2): 131–159.
- Plank, S.B., & W.J. Jordan (2001). "Effects of information, guidance, and action on postsecondary destinations: A study of talent loss," *American Educational Research Journal*, 38(4): 947–979.
- Po, V. (2012, May 22). California schools under more stress. New America Media. Retrieved from <http://newamericamedia.org/2012/05/california-schools-under-more-stress.php>.
- Radford, A. (2013). *Top student, top school? How social class shapes where valedictorians go to school*. Chicago: University of Chicago Press.
- Radford, A., & N. Ifill (2013). "Preparing Students for College: What High Schools Are Doing and How Their Actions Influence Ninth Graders' College Attitudes, Aspirations and Plans," National Association for College Admission Counseling.
- Seftor, N. S., A. Mamun, & A. Schirm (2008). The Impacts of Regular Upward Bound on Postsecondary Outcomes 7–9 Years After Scheduled High School Graduation. Final Report. Washington, DC: Mathematica Policy Research, Inc. Available at <http://mathematica-mpr.com/publications/PDFs/upwardboundoutcomes.pdf>.
- Sherwin, J. (2012). "Make Me a Match: Helping Low-Income and First-Generation Students Make Good College Choices," MDRC Policy Brief, Retrieved from <http://www.mdrc.org/publication/make-me-match>.
- Stephan, J., & J. Rosenbaum (2013). "Can high schools reduce education gaps with a new counseling model?" *Educational Evaluation and Policy Analysis*, 35(2): 200–219.
- U.S. Department of Education, National Center for Education Statistics (2003). "High School Guidance Counseling," NCES 2003–015, by Basmat Parsad, Debbie Alexander, Elizabeth Farris, and Lisa Hudson. Project Officer: Bernard Greene. Washington, DC.

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*This work is the product of a series of
collaborations between the College
Board and Harvard's Center for
Education Policy Research at Harvard
University. We are grateful to Melissa
Bert, Marc A. Johnson, and Mark W.
Robertson for exceptional assistance
with this review of the literature.*

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1. For a separate review of the evidence on the role of college applications in students' postsecondary outcomes, see Avery, Howell, and Page (2014).
 2. State-specific student-to-counselor ratios are based on data from the NCES and are available at <http://www.schoolcounselor.org/asca/media/asca/home/ratios10-11.pdf>.
 3. See, for example, Po (2012) for information about the decreases in counselor staff in California.