

Effectiveness of programs to improve postsecondary education enrollment and success of underrepresented youth

A literature review

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Introduction

The purpose of this literature review is to evaluate the evidence for the effectiveness of interventions aimed at increasing postsecondary enrollment and success of underrepresented groups, in particular students of color and students from low-income families.

Background

The importance of postsecondary education

One year before the authorization of the *Higher Education Act of 1965*, President Lyndon B. Johnson gave a speech at the 200th Anniversary Convocation of Brown University in which he said that “universal, free, public education is the very foundation upon which our entire society rests today.” That statement is as true today as it has ever been. Indeed, the relationship between an educated citizenry and the health of our society continues to grow even stronger as our economy grows increasingly knowledge based.

According to the United States Bureau of Labor Statistics (2005), approximately 80 percent of the fastest growing occupations in the United States require at least some postsecondary education. For those with only a high school education and on-the-job training, the available jobs often do not pay the living wage necessary to comfortably care for oneself or raise a family. Many of these jobs do not offer essential benefits or opportunities for advancement, and they are often unstable jobs that lack job security. Consequently, families with lower-educated heads of household are often left economically vulnerable and at risk of financial devastation. In contrast, individuals with higher levels of education are better able to compete for higher quality jobs, earning an average of \$19,100 more per year in 2003 than individuals with only a high school diploma (Baum & Payea, 2005). They are also more likely to obtain jobs that provide better working conditions, essential benefits, opportunities for advancement, and job security.

Not only does higher education benefit the individuals that receive it and their families, higher education also benefits society as a whole. Having a highly educated and skilled workforce is essential for competing in a changing economy that is increasingly knowledge based. Because individuals with higher education tend to earn higher wages, they also contribute more to tax revenues (Baum & Payea, 2005). In addition, research has demonstrated some of the positive effects of having an educated citizenry, including lower crime rates, fewer unplanned pregnancies, lower unemployment rates, decreased burden on social services, and increased civic engagement (Baum & Payea, 2005; Haveman & Wolfe, 1994). These benefits carry on to future generations, as well-

educated parents are more likely to have the skills and knowledge necessary to help their children navigate the educational system and do well in school.

Recognizing the role of education's overall benefits to our society, President Johnson made it a national goal "to open the doors to education beyond the high school to all young Americans, regardless of station or the station of their families." Yet over 40 years later, those doors still remain closed to many.

The achievement gap

Postsecondary enrollment rates have increased substantially over the past three decades, and more low-income students are enrolling in college today than ever before. However, low-income students continue to enroll, complete credits, and graduate at rates lower than high-income students, and the income-related gaps are large and appear to be growing (Haveman & Smeeding, 2006).

Achievement gaps are clearly visible throughout the school years. Gaps related to income and race/ethnicity are observed in a variety of outcomes, including average grades in elementary and secondary school, enrollment in Advanced Placement math and science courses, average SAT scores, high school graduation rates, and college enrollment rates (National Center for Education Statistics [NCES], 2005). Moreover, the achievement gap persists long-term, as evidenced by class and racial/ethnic disparities in the highest level of education completed for individuals age 25 and older (NCES, 2005).

The lower educational achievement and attainment among low-income and racial/minority students is becoming an increasingly important issue as these groups make up a growing proportion of the school (kindergarten - grade 12, k-12) population. Because racial/ethnic minorities make up a growing proportion of the student population, they will clearly be an increasing proportion of the workforce in the future. Their lower educational achievement has grave implications for society. A well-educated workforce is crucial in an increasingly knowledge-based economy. Not to mention the moral arguments for equal representation.

Why the achievement gap persists

The United States government has formally made higher education a priority since the authorization of the Higher Education Act in 1965, and with its continued reauthorization, a commitment to need-based aid in particular. However, recent changes in the federal Pell Grant program have decreased financial aid for low-income students, and at the same time, college tuition costs are rising. As a result, the dream of postsecondary education is out of reach for many who simply cannot afford it.

Nevertheless, financial aid alone is not enough to level the playing field. Racial/ethnic and income disparities appear much earlier in the educational pipeline. In order to increase postsecondary access and success for underrepresented students, the steps required to be academically, socially, and psychologically prepared for college must be addressed (Gladieux & Swail, 1999).

Whether or not the American educational system prepares students for college depends upon the educational track in which the student has been placed. The college preparatory track can provide students with a world-class education, whereas the vocational track prepares students to enter employment – usually low-skill or blue collar jobs – directly after high school. This two-track system was created in the early twentieth century to accommodate an industrial society with many low-skill factory jobs available. However, in today’s knowledge-based economy, this type of educational system is outdated. Students on the vocational track graduate from high school unprepared to enter college, and those students are disproportionately from low-income and racial/ethnic minority groups.

This problem stems from systematic inequalities in K-12 schools. Low-income and minority students are overrepresented in schools that are underfunded and lack resources. As a result, these schools tend to have lower quality teachers and are less likely to offer a challenging curriculum, including rigorous math courses, shown to be one of the most important predictors of college enrollment and success (Adelman, 1999).

In addition, low-income, minority students must deal with cumulative disadvantages resulting from a history of racism and discrimination. According to Gándara and Bial (2001), underrepresented youth face a number of impediments to higher education, including lack of access to information and resource networks, inequality of neighborhood resources, lack of peer support for academic achievement, segregation, ineffective high school counseling, and low expectations and aspirations (pp. 8-9). Not only does the American educational system fail to adequately prepare disproportionate numbers of low-income and minority students academically; the system also fails to address many of the social and psychological barriers that underrepresented students face.

The need for pre-college outreach programs

Outreach programs serve to compensate for the shortcomings of the public education system (Swail, 2001), particularly by offering a more comprehensive approach to college access (Perna & Swail, 2002). Research has shown that pre-college outreach programs improve college access for underrepresented students (Macy, 2000; Gándara & Bial, 2001; Vargas, 2004). In fact, Horn and Chen (1998) found that high school outreach programs almost doubled the odds of enrolling in college for moderate- to high-risk students. However, only about 5 percent of at-risk students reported participating in such programs.

According to results from the National Survey of Outreach Programs (Swail & Perna, 2001), an estimated two million or more students are served in outreach programs across the United States each year. Two-thirds of the programs surveyed offer services to students beginning in ninth grade or earlier, with the remaining one-third focusing on the later years of high school. Programs most commonly target low-income, first-generation, and minority students. The majority of programs are sponsored by colleges or universities, although they may also be sponsored by K-12 schools or community organizations. The most frequent program goals include promoting college attendance, college awareness, and college exposure, followed by improving academic skills, building student self-esteem, and providing role models. The most common service provided is college awareness, followed by social skills development, campus visits, and cultural activities. Sixty-nine percent of programs offer a parental component, and 22 percent require parental participation.

Evaluating the effectiveness of outreach programs

The importance of evaluation

Evaluation is a critical component of program improvement. Furthermore, evaluation results help to inform policy and to ensure fiscally responsible decision making and accountability. In other words, program evaluation can help determine how to effectively help as many people as possible with the limited funding available.

Although almost all programs report conducting evaluations, in actuality the availability of empirical data, along with appropriate use and reporting of data, are major problems for programs (Swail & Perna, 2001). In their extensive search of the literature, Gándara and Bial (2001) found only 13 programs that had an acceptable level of evidence for effectiveness. The search conducted for this review found only seven additional programs with such evidence available.

Components of quality evaluations

This brief discussion on components of quality evaluations is a summary of information provided in a guide published by the U.S. Department of Education (2003). For additional information, please consult the guide.

The best evaluation design for measuring a program's impact is the experimental design (also called the randomized control trial), where individuals are randomly assigned to the participant and control groups prior to program implementation. This design is ideal because the only characteristic for which the two groups should systematically differ is program participation, and therefore, any difference in outcomes found between the two groups can confidently be attributed to the program's impact.

However, in most cases random assignment is not possible because programs are already in operation prior to the decision to conduct an evaluation. In such cases, the preferred evaluation design is the quasi-experiment, using well-matched comparison groups. In order to attribute differences between the participant and comparison groups to the program's impact, it is essential to demonstrate that the participant and comparison group members were initially equivalent on measures that are potentially associated with the outcome measure (i.e., academic success), such as previous academic performance and demographic and family background characteristics. It is often difficult to control for systematic unobservable differences between participants and non-participants. For example, when students choose to participate in the program (an issue called self-selection), it is often the case that participants differ systematically from non-participants with regard to personal motivation. Researchers try to control for unobservable characteristics as best they can using variables that serve as proxies. As a result, well-matched comparison group studies generally yield correct conclusions about whether a program is effective. However, the estimated size of the impact is often inaccurate because unobservable characteristics for which the researcher could not control account for a portion of the estimated impact. Longitudinal, prospective designs (where students are followed into the future) are generally stronger than cross-sectional, retrospective designs (where student outcomes are examined at one point in time using previously collected data).

In addition to the evaluation design, other important components of quality evaluations include the way in which data are collected and reported. Evaluations should use objective outcome measures that are appropriate for measuring the program's impact. For example, SAT scores do not appropriately measure a program's impact on college access. The college enrollment rate would be a more appropriate measure. In addition, it is preferable to report findings in easily understandable, real-world terms (e.g., change in probability is preferable to odds ratios). Results should be reported for all outcome measures, not only those for which the program had a positive effect. When evaluations analyze information provided by the participants themselves, it is ideal to verify the self-reports using independent and/or objective measures. In estimating the program's impact, it is essential to include all members in the participant group even if they do not complete the intervention. It is also important to minimize sample attrition as much as possible. Researchers should report the size of the program's effect and indicate whether differences between participants and non-participants are statistically significant. In this review, results are considered to be statistically significant if there is only a five percent probability at most that the finding resulted by chance (i.e., $p < 0.05$). In order to achieve statistical significance, it is usually necessary to have a large sample size. On the other hand, evaluations with very large samples will find even small differences to be

statistically significant. For this reason, it is important to consider whether results are substantial in addition to whether they are statistically significant.

Selection of programs for review

The purpose of this literature review is three-fold: to update findings for the programs reviewed in Gándara and Bial's (2001) *Paving the Way*, to examine any additional programs that had acceptable evidence of effectiveness, and to give closer consideration to the methodology and quality of evidence.

In order to identify programs for inclusion, Wilder's information management specialist conducted an extensive search of the available literature. She searched a number of databases, including ERIC, ArticleFirst, Electronic Collections Online (ECO), Periodical Abstracts, SIRS Researcher, WilsonSelectPlus, WorldCat, EBSCO MegaFile. She also conducted a general web search and collected information from program websites. The Pathways to College Network website (<http://pathwaystocollege.net/>) provided general information on a number of programs that served as a starting point for further searching.

In addition, the following compendia were consulted:

Jurich, S., & Estes, S. (2000). *Raising Academic Achievement: A Study of 20 Successful Programs*. Washington, D.C.: American Youth Policy Forum. Retrieved July 27, 2006, from <http://www.aypf.org/publications/RAA/index.htm>

James, D.W., Jurich, S., & Estes, S. (2001). *Raising Minority Academic Achievement: A Compendium of Education Programs and Practices*. Washington, D.C.: American Youth Policy Forum. Retrieved July 27, 2006, from <http://www.aypf.org/publications/rmaa/pdfs/Book.pdf>

Only programs with evaluations providing evidence for effectiveness were considered for inclusion. Evaluations conducted by third parties were preferred; however, internal evaluations were also accepted. The evaluations generally needed to include appropriate measures of postsecondary access or success, and to compare outcomes for program participants to outcomes for reasonably comparable students. The search was limited to recent evaluations (conducted in 2000 or later). However, in exceptional cases older evaluations were included because their methodology and findings were particularly strong.

Organization of literature review

This review begins with a discussion of the key features of effective programs, summaries of the programs with the strongest evidence for effectiveness, program limitations, and the limitations of the evidence. Then the remainder of the review is dedicated to examining each program in detail, including a description of the program, an explanation of the evaluation methodology and findings, and an assessment of the quality of the evidence.

Key features of effective programs

The evaluations included in this review are limited. Although they were designed to assess a program's impact on college access and persistence, almost none of the evaluations were designed to identify which program features account for or contribute most to the program's success. Therefore, it was necessary to draw on previous research to compile a list of the key features of effective programs. That is, the key features discussed here were frequently found in other literature reviews, program evaluations, and studies designed to measure the impacts of contributing factors. Programs with the best evidence for effectiveness, based on this review, contain many of the features highlighted in this section.

Prepare students academically

Multiple research studies have concluded that access to a college preparatory curriculum while in high school is the most critical variable for helping students gain access to postsecondary education (Corwin, Colyar, & Tierney, 2005; Cabrera & La Nasa, 2001; Perna, 2000). Effective outreach programs help prepare students academically through “untracking,” tutoring, and/or curriculum reform (Gándara & Bial, 2001). It is especially important that students take rigorous mathematics courses during high school, as this was found to be the single greatest predictor of successful college completion (Adelman, 1999). Programs should address teachers' biases and instill high expectations among school staff as well as among students (Martinez & Klopott, 2002). Additional strategies include providing academic counseling, enrichment, and remediation; teaching study skills; and creating personalized learning environments. All the programs in this review incorporate some form of academic enrichment.

Balance academic support with social support

Research has shown that social support is a predictor of college attendance and completion (Perna, 2000). Social support helps students see college as a realistic option. Students are more likely to plan to attend college if their friends also plan to enroll (Hossler, Schmit, & Vesper, 1999). Strong social networks help support students' academic and emotional development, which can influence their likelihood of enrolling in college (Cabrera & La Nasa, 2001). In addition to peer support, research has shown that mentors play a key supportive role in helping low-income students overcome obstacles and enroll in college (Levine & Nidiffer, 1996). Most of the programs included in this review (80%) incorporate some form of personal and social enrichment in addition to academic enrichment, and of the programs with the strongest evidence for effectiveness, all include this component.

Intervene early

Research has shown that it is critical to intervene early in order to facilitate curricular planning. Researchers recommend that programs begin by eighth grade (Perna, 2002), no later than the ninth grade (Corwin et al., 2005), or well before high school (Levine & Nidiffer, 1996) if possible. Almost all of the programs reviewed begin serving students in ninth grade or earlier, and 40 percent of the programs target students prior to entering high school. Of the six programs with the strongest evidence for effectiveness, two begin serving students prior to high school, and the other four begin serving students in ninth grade.

Involve and encourage parents/family

Students with parents who are knowledgeable about college are more likely to attend college. Effective outreach programs address this predictor by involving parents and other family members, providing college information to parents, and teaching parents how to support their children's education (Perna, 2002; Corwin et al., 2005; Swail & Perna, 2002). However, less than one-third of the programs in this review include a parental component, and just one-third of the programs with the strongest evidence for effectiveness have this component.

Help students navigate the college admissions process

Research has shown that helping students complete college applications and helping students prepare for entrance exams are important predictors of enrollment (Horn & Chen, 1998). Almost all of the programs in this review help students navigate the college admissions process, and of the programs with the strongest evidence for effectiveness, all include this component.

Provide comprehensive, long-term support

The programs that have the greatest impact tend to be those that are comprehensive in terms of the services provided and intense with regard to the level of involvement required (Cabrera & La Nasa, 2001; Perna & Swail, 2002). In addition, several evaluations have shown that students benefit more the longer they participate in the program (Gándara & Bial, 2001). Nearly all of the programs in this review offer a wide variety of services and support students for at least four years. The programs with the strongest evidence for effectiveness tend to be more comprehensive and offer long-term support.

Encourage systemic reform

Most outreach programs are peripheral and supplemental to the classroom, which may explain why outreach programs tend to have little effect on students' academic achievement (Gándara & Bial, 2001). According to Watson Scott Swail (2001), outreach programs must have, at their core, "a desire to help change the very system whose failure required their existence" if they are to have any long-term or systemic impacts on our educational system (p. xiii). Indeed, researchers at the State Higher Education Executive Officers (SHEEO, 2003) found that the most effective programs offer long-term systemic services that are incorporated as part of the regular school offerings, rather than short-term supplemental programmatic services. Research has also shown that linking the secondary and postsecondary educational systems – for example, by aligning high school curricular requirements with college entry requirements – helps low-income and minority students succeed (Martinez & Klopott, 2005). However, very few programs take a systemic approach, and this is the case among the programs included in this review. Several programs address this issue to some extent, for example, by establishing partnerships between secondary schools and postsecondary institutions and by helping ensure that students complete college entrance requirements. In addition, programs often operate in tandem with other statewide reform efforts that help reach more students. Nevertheless, more work is needed in this area.

Provide financial assistance

Students need adequate financial resources in order to attend and complete college. Research has shown that financial aid – especially state funded need-based grants – is positively associated with college enrollment (St. John, Chung, Musoba, Simmons, Wooden, & Mendez, 2004), and students who received financial aid persist in college better than or as well as students who do not receive aid (Hu & St. John, 2001). Programs can provide financial assistance by sending students on college visits, covering the fees for college entrance exams and applications, and awarding scholarships (Gándara & Bial, 2001). Although only about half of the programs included in this review provide scholarships, most programs provide students with information and assist students in applying for financial aid.

Summaries of the programs with the strongest evidence for effectiveness

Indiana's Twenty-first Century Scholars Program

Indiana's Twenty-first Century Scholars is a statewide early intervention program designed to help low-income students prepare for and enroll in college. The program is based on a dual pledge process. Income-eligible students make a pledge in the eighth grade to meet certain program requirements, and in exchange, the State of Indiana guarantees to cover the last dollar costs for students to attend any public college in Indiana (or to cover a like portion of tuition costs for students attending independent colleges). In addition to providing the tuition incentive, the State of Indiana also provides college information and support services, including tutoring, mentoring, college visits, and activities for parents.

Researchers from the Indiana Education Policy Center received funding from Lumina Foundation for Education to conduct an evaluation of the program's impact on increasing access to postsecondary education (St. John, Musoba, Simmons, & Chung, 2002) and a follow up study of the program's impact on postsecondary persistence and degree completion (St. John, Gross, Musoba, & Chung, 2005). The researchers developed a multinomial logistic regression model including a number of independent explanatory variables, which allowed them to compare the odds of enrolling in college for students with different characteristics (e.g., Scholars versus non-Scholars, males versus females, etc.). They found that Scholars were significantly more likely than non-Scholars to enroll in Indiana public and private colleges. Four years after enrollment, a smaller percentage of Scholars had left college in comparison to income-eligible non-Scholars, and Scholars were more than twice as likely to have received two-year degrees. The strength and quality of this evidence is rated as promising (see page 18 for definitions of ratings). For more information on Indiana's Twenty-first Century Scholars Program, see pages 38-41.

Upward Bound

Upward Bound is one of the original federal TRIO programs designed to help low-income and first-generation students prepare for, enroll in, and succeed in college. Students are usually recommended for participation by educators, social workers, or clergy, and the program serves students in grades 9-12. Upward Bound projects are most commonly hosted by colleges and universities, and program implementation varies considerably depending upon the project. While projects are required to provide instruction in laboratory science, mathematics, composition, literature, and foreign language, other possible services include academic and financial counseling, tutoring,

mentoring, financial aid and college application assistance, information on postsecondary educational opportunities, work-study positions, and exposure to cultural events. Participants also receive intensive instructional preparation for college in a six-week summer program.

The U.S. Department of Education commissioned Mathematica Policy Research, Inc. to conduct the national evaluation of Upward Bound (Myers, Olsen, Seftor, Young, & Tuttle, 2004). Using a randomly selected, nationally representative sample of Upward Bound projects, the researchers randomly assigned eligible applicants to the treatment and control groups. Three follow-up studies were conducted to measure student outcomes over time. The researchers estimated the value-added of Upward Bound by computing the differences in outcomes between the treatment and control groups after controlling for some background characteristics. In addition, the researchers examined differences between subgroups of participants to examine whether the program benefited some students more than others. They found that the program's impact was modest for the average student. However, the impact was larger for certain groups. For example, Upward Bound significantly increased four-year college enrollment and the number of postsecondary credits earned at four-year colleges and universities for students with lower educational expectations. Longer participation and program completion were associated with better student outcomes. The strength and quality of this evidence is rated as promising (see page 18). For additional information on Upward Bound, see pages 52-56.

Gateway to Higher Education

Gateway to Higher Education is a four-year secondary school program that has been implemented in New York City high schools. The program provides rigorous pre-college academic preparation to underrepresented minority students who are interested in pursuing majors in science, technology, engineering, and medicine. Both the school day and the school year are extended for participants, who enroll in an additional period of math or science, participate in small group study and after-school tutoring, and attend academic summer programs. Enrichment experiences include internships, social outings, campus visits, college fairs, and research experiences. Participants are expected to enroll in advanced placement courses and take college entrance exams.

In order to examine the impact of the Gateway to Higher Education program, researchers analyzed existing quantitative data and compared Gateway students with a retrospective matched comparison group of non-participants (Campbell, Wahl, Slater, Iler, Moeller, et al., 1998). The researchers found that Gateway students were more apt to graduate from high school, take the SAT at least once, and earn a higher combined SAT score than their matched comparison students. Although comparison group data were not available for the college attendance and retention indicators, Gateway students enrolled in and

graduated from college at high rates. The strength and quality of this evidence is rated as promising (see page 18). For more information on the Gateway to Higher Education program, see pages 64-67.

Quantum Opportunities Program

The Quantum Opportunities Program was designed as a social experiment to test whether community-based organizations could help increase the educational achievement and social competencies of highly disadvantaged youth. In each of five project cities, students were randomly selected from a list of families receiving public assistance and assigned to the participant and control groups. The program provided year-round services, assistance, and coaching to participants beginning in ninth grade and continuing through high school. Program activities were designed to foster learning, community service, and development. Students were paired with caring adult mentors and received small financial incentives for their participation.

Questionnaires and skills tests were periodically administered to the participant and control group students, allowing researchers to compare student outcomes to estimate the program's impact. Hahn, Leavitt, and Aaron (1994) analyzed data from the post-high school follow-up survey and compared outcomes for the participant and control groups. They also conducted a small benefit-cost analysis. They found that significantly higher percentages of program participants graduated from high school, enrolled in two-year and four-year colleges, received honors or awards, and participated in community service in comparison to the control group students. The program's effects had increased over time. In addition, the benefit-cost analysis found that for every dollar spent, the program produced over three dollars of benefit. The strength and quality of this evidence is rated as strong (see page 18). For additional information on the Quantum Opportunities Program, see pages 69-72.

Sponsor-A-Scholar

Sponsor-A-Scholar (SAS) is a college preparatory/college retention program administered by the nonprofit organization Philadelphia Futures. The program serves low-income students of color with average grades who demonstrate motivation and attend one of the participating public high schools in Philadelphia. Students are nominated for participation by school staff and must sign a Statement of Intent upon acceptance to the program. Participants are paired with volunteer adult mentors, who meet with them monthly from ninth grade through the first year after high school. In addition, program staff arrange academic enrichment opportunities, including tutoring, SAT preparation, study skills workshops, college visits, college selection assistance, and

summer programs. Upon graduating from high school, SAS participants receive a \$6,000 scholarship that is donated by the mentor or an outside partner.

Mathematica Policy Research, Inc. (Johnson, 1998) conducted an evaluation of SAS using a longitudinal comparison group design. Participants and matched comparison students were surveyed each of the four evaluation years. In order to measure the program's impact on a variety of outcome measures, the researchers used regression and logistic regression analyses, controlling for socioeconomic and demographic characteristics, student motivation, and previous student academic performance. They found that the program had a positive and significant impact on participation in college preparation activities and on college attendance during the first and second years after high school. The program's impact was largest for students who entered the program with the fewest resources and students who had strong relationships with their mentors. The strength and quality of this evidence is rated as promising (see page 18). For more information on Sponsor-A-Scholar, see pages 73-76.

Talent Search

Talent Search is one of the original federal TRIO programs designed to help low-income, first-generation students enroll in college. The program is low-intensity, focusing primarily on addressing informational barriers. The services offered are limited and vary depending upon the project, but the most common services include academic support, career development, and financial aid assistance.

The U.S. Department of Education commissioned Mathematica Policy Research, Inc. (Constantine, Seftor, Martin, Silva, & Myers, 2006) to conduct an evaluation of the Talent Search program. The evaluation examined the effect of Talent Search on postsecondary outcomes in three states (Florida, Indiana, and Texas) by comparing program participants with matched non-participants using a regression-adjusted approach. The researchers found positive results in all three states evaluated. Participants were more likely to graduate from high school, to apply for financial aid, and to enroll in two-year and four-year institutions than non-participants. The strength and quality of this evidence is rated as promising (see page 18). For additional information on Talent Search, see pages 76-78.

Program limitations

In *Paving the Way*, Gándara and Bial (2001) identified several program limitations that also apply to the programs included in this review:

- Program drop-out rates are high.
- Participant selection is not explicit, limiting the ability to judge who can best benefit from the program.
- Males are seriously underrepresented.
- Few programs keep records on participation levels, and programs are often vague about what constitutes completion and retention.
- Most programs use a sector approach. In other words, they provide non-systemic, non-continuous services, focusing on only one sector of the educational system.
- The evidence that programs impact academic achievement is limited, likely because the programs begin too late, do not last long enough, and do not impact the education system, as stated above.
- Because achievement is not raised, the programs do not have a major impact on increasing enrollment in selective colleges and universities, but rather in community colleges and less selective four-year colleges.
- Little is known about long-term outcomes, such as degree completion.
- Few programs report cost data.

Additional challenges include hiring and retaining effective staffs and sustaining funding (Swail & Perna, 2001).

Programs are also limited in who they serve. Most programs are geared towards underrepresented students who demonstrate high potential. Programs often target students who are middle achieving (earning B's and C's), who demonstrate motivation through consistent attendance and high involvement, and who receive strong recommendations from teachers. In other words, most participants are academic survivors in many regards prior to program entry. On the other hand, unmotivated students who achieve below average or failing grades are often neglected by these programs.

Limitations of the evidence

- Few evaluations use control groups (Gullatt & Jan, 2003), limiting the ability to conclude that outcomes observed for participants can be attributed to the impact of the program and not to other factors.
- Little is known about the selection criteria for program participation (Gullatt & Jan, 2003).
- Few programs keep track of attrition, and students who leave the program are usually not included in evaluations. Success is usually calculated based on program completers only, thereby overstating the program's effect (Gullatt & Jan, 2003; Swail & Perna, 2001).
- Little is known about the long-term effectiveness of programs (Perna & Swail, 2002). Few programs track success in postsecondary education, and there is a lack of data on postsecondary persistence and completion (Gándara & Bial, 2001).
- Little is known about which students are most likely to benefit (Perna & Swail, 2002).
- Little is known about how much programs are likely to cost (Perna & Swail, 2002).
- There is a lack of cost-benefit analysis (Gándara & Bial, 2001).
- Some programs only conduct internal evaluations. However, internal evaluations may have more biases than external evaluations, especially if funding is contingent upon good outcomes.
- Several evaluations used unmatched or poorly matched comparison groups, limiting the ability to conclude that differences between the participant and comparison groups can be attributed to the program and not to differences between the two groups for which the researcher did not control.
- Researchers seldom provide context for interpreting the results and seldom draw connections between program components and results. Little is known about which program features account for or contribute to program success.
- Program implementation and components often vary considerably from site to site for the same program, and this variation is seldom addressed in evaluations.

- Program descriptions often consisted of a list of components. However, it was difficult to conceptualize how the components came together for the program to operate.
- Descriptions of the evaluation methodology were often incomplete.
- Researchers often failed to report key information, such as standard deviations, statistical significance, and descriptive statistics on the characteristics of participant and comparison students prior to program implementation.
- Evaluations often lacked meaningful outcome measures. For example, measures of college preparation (e.g., SAT test taking, curriculum completion, etc.) were often used as measures of college access.
- The quantity of evidence (i.e., replication) is limited because few programs have been implemented in multiple settings with different populations.

Review of programs with evaluation results

The following tables summarize the program components and evaluation features for the programs previously reviewed by Gándara and Bial (2001) (Figures 1 and 2) and for the additional programs with evaluation data (Figures 3 and 4) included in this review. Programs were given a rating for the quality and strength of the evidence for effectiveness. These ratings took into consideration the quality of the evaluation methodology and the strength of the evaluation findings. The rating scale is as follows: limited, suggestive, promising, strong.

The ratings were assigned somewhat subjectively, but the following definitions provide examples of the types of evaluations that fall into each category:

- Limited evidence – the evaluation methodology was very weak (e.g., convenience sample comparison groups) to the extent that it was difficult to judge whether the findings were meaningful, even if they appeared to be favorable. Many of these evaluations used inappropriate outcome measures and calculated and reported results in ways that suggested significant biases.
- Suggestive evidence – the findings are generally favorable; however, the evaluation methodology limited the ability to conclude that the findings could be attributed to the program alone and not to other factors (e.g., due to poorly matched comparison groups).
- Promising evidence – the findings are generally favorable, and the researchers used a solid quasi-experimental design (e.g., well-matched comparison groups), allowing one to conclude with considerable confidence that the program is having a positive impact. However, the size of the effect may not be accurate given the limitations of quasi-experiments.
- Strong evidence – the findings are favorable and substantial, and the researchers used an experimental design (i.e., participant and control groups randomly assigned prior to program entry), allowing one to draw confident conclusions about the program’s impact and the size of the program’s effect.

Additional explanation about the quality and strength of evidence for individual programs is provided in the “assessing the quality of evidence” section for each program.

1. Summary of program features, previously reviewed programs

Program	Counseling	Academic enrichment	Parental involvement	Personal and social enrichment	Mentoring	Scholarships	Target audience
ABC	X	X					Individual H.S. students
AVID	X	X		X			Individual middle and H.S. students
College Bound	X	X		X	X		Secondary schools
College Pathways	X	X		X		X	H.S. students by class
CROP	X	X			X		Individual students (6-12)
IHAD	X	X		X	X	X	Students by class (6-12)
NAI	X	X	X	X		X	Individual students (7-12)
PSEO		X				X	Individual H.S. juniors and seniors
Project GRAD	X	X	X	X		X	K-12 students by school
Puente	X	X	X	X	X		H.S. students by class
Posse	X	X		X	X	X	Individual H.S. students
Upward Bound	X	X	X	X	X		Secondary students by class
21 st Century Scholars	X	X	X	X	X	X	Individual students (8-12)

Note: Adapted from Gándara and Bial (2001).

Note: A Better Chance (ABC), Advancement Via Individual Determination (AVID), College Reach-Out Program (CROP), I Have A Dream (IHAD), Neighborhood Academic Initiative (NAI), Post-secondary Enrollment Options (PSEO), Project Graduation Really Achieves Dreams (Project GRAD).

2. Summary of evaluation components, previously reviewed programs

Program	Randomly assigned control groups	Matched comparison groups or controlled explanatory factors	Convenience sample comparison groups	Longitudinal data	Disaggregated outcomes or independent net effects ^a	Quality and strength of evidence
ABC		X	X			Limited
AVID			X	X	X	Suggestive
College Bound			X	X		Suggestive
College Pathways			X			Limited
CROP		X				Suggestive
IHAD			X	X		Suggestive
NAI			X			Limited
PSEO						Limited
Project GRAD		X		X		Limited
Puente		X		X		Suggestive
Posse						Limited
Upward Bound	X			X	X	Promising
21 st Century Scholars		X		X	X	Promising

Note: A Better Chance (ABC), Advancement Via Individual Determination (AVID), College Reach-Out Program (CROP), I Have A Dream (IHAD), Neighborhood Academic Initiative (NAI), Post-secondary Enrollment Options (PSEO), Project Graduation Really Achieves Dreams (Project GRAD).

^a Disaggregating the outcomes for different groups of students helps reveal for which group(s) the program is most effective. Calculating independent net effects provides an estimate of the relative contribution that each independent explanatory variable has on college enrollment net of the other explanatory variables.

3. Summary of program features, additional programs with evaluation data

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Program	Counseling	Academic enrichment	Parental involvement	Personal and social enrichment	Mentoring	Scholarships	Target audience
College Now		X		X		X	Ind. H.S. students
EAOP ^a	X	X	X	X			Ind. students (6-12) and 6-12 students by school
Gateway to Higher Ed		X		X			Ind. H.S. students
Helping Teens Succeed		X					Ind. H.S. students
Quantum Opportunities	X	X		X	X		Ind. H.S. students
Sponsor-A-Scholar		X		X	X	X	Ind. H.S. students
Talent Search		X		X			Ind. students (5-12)

^a *Early Academic Outreach Program*

4. Summary of evaluation components, additional programs with evaluation data

Program	Randomly assigned control groups	Matched comparison groups or controlled explanatory factors	Convenience sample comparison groups	Longitudinal data	Disaggregated outcomes or independent net effects ^a	Quality and strength of evidence
College Now		X			X	Limited
EAOP ^b			X			Limited
Gateway to Higher Ed		X		X		Promising
Helping Teens Succeed		X		X		Suggestive
Quantum Opportunities	X			X	X	Strong
Sponsor-A-Scholar		X		X	X	Promising
Talent Search		X				Promising

^a Disaggregating the outcomes for different groups of students helps reveal for which group(s) the program is most effective. Calculating independent net effects provides an estimate of the relative contribution that each independent explanatory variable has on college enrollment net of the other explanatory variables.

^b Early Academic Outreach Program

Reexamination of previously reviewed programs

This section of the literature review includes a reexamination of programs previously reviewed by Gándara and Bial in *Paving the Way* (2001). The purpose is to review more recent evaluations to update findings and to examine whether the updated findings concur or contrast with previous findings, thus strengthening or weakening the evidence for effectiveness. In cases where no new evaluations have been conducted, the evaluation reviewed in *Paving the Way* is reexamined with closer consideration of the methodology and quality of evidence.

A Better Chance (ABC)

Program description

A Better Chance (ABC) was founded in 1963 with the mission to “substantially increase the number of well-educated minority youth capable of assuming positions of responsibility and leadership in American society” (ABC, 2004). ABC began in 1964 as a summer program designed to prepare academically talented minority students for enrollment in the nation’s top college preparatory schools, to which they had been granted access for the first time.

Today ABC continues its mission to “transform students of color into successful leaders” (ABC, 2004) by removing students from their settings (i.e., usually poor communities) and placing them in some of the best public and private college preparatory schools in the country. The cost of attendance is covered by the ABC member schools. In 2003-04, ABC had partnerships with 236 member schools – including independent day schools, independent boarding schools, and community school programs – in 27 states throughout the country (ABC, 2004). New participants attend a three-day orientation program where they meet fellow participants and learn about the expectations of their new schools. In the early years, the program provided more academic and social support through mentoring and a summer enrichment program. Today students are supported by liaisons at their schools, but are otherwise expected to make it on their own without additional support services.

ABC is a very competitive program. Participation is limited to students of color who are in the top 10 percent of their class and have earned a grade point average of B or better. Volunteers help identify students who would benefit from the program. Nominees must be backed by strong recommendations and undergo a rigorous selection process. In 2002, 2,920 students applied to the program, and only 420 were accepted (14%). One-third of ABC scholars come from families receiving welfare or who are living at or below the federal poverty line, and 65 percent come from single-parent families (ABC, 2004).

Evaluation methodology

According to Gándara and Bial (2001), “ABC has been evaluated several times over the years...but evaluations have consisted largely of surveying alumni about their experiences and their success in postsecondary education” (p. 42). Our search procedures located only one of the evaluations (Perry & Kopperman, 1973) cited by Gándara and Bial (2001). Data sources for the evaluation included focus groups with ABC graduates, program records, year-end progress reports submitted by ABC schools, discussions with headmasters and other school personnel, academic records provided by the postsecondary institutions, and questionnaires completed by students. The evaluation measured several outcomes, using various participant and comparison group samples.

The researchers investigated whether the impact of ABC varied depending on the environment of the ABC school attended. The evaluation also included a comparison of the high school dropout rate for 1,640 ABC students with the attrition rate for non-ABC students in independent schools and the school-wide average attrition rates for five representative ABC schools.

The researchers predicted SAT scores for 619 students based on their Secondary School Admissions Test (SSAT) score in eighth or ninth grade and compared the predicted scores with the students’ actual achieved SAT scores in twelfth grade. The test score progress of non-ABC students from two of the ABC schools was examined for comparison.

The researchers compared the college enrollment rates and the selectivity of colleges attended by ABC students and a matched comparison group of ABC applicants who were not placed in the program due to a funding shortage. The comparison students were paired according to “1) size of their community; 2) structure of their family (father or no father); 3) parents’ education; 4) family income; 5) achievement in public school at the time they applied for an ABC scholarship; and 6) GSAT score (total score) on the Secondary School Admissions Test” (p. 18). Results were reported for 47 matched pairs.

Students’ academic performance in college was examined by comparing the GPAs of ABC students with “students who were similar in academic strength and family background, but had attended public high school at home” (p. 20) and comparison groups of non-ABC students identified by four colleges. Results were reported for 65 matched pairs.

Evaluation findings

The evaluation by Perry and Kopperman (1973) found the following results:

- “ABC students had an aggregate [high school dropout rate] of 20 percent, compared to 30 percent for middle and upper class students in independent schools. However,

recently the [high school dropout rate] of ABC students increased, so that by 1972 it was approximately equal to that of their classmates” (Conclusion, Academic Performance After High School section, para. 1).

- “Most ABC students entered the program having been very successful in school, and those who had had the strongest school records tended to continue to have the best success in ABC schools. For example, among every 100 ABC students in independent schools who had been rated ‘outstanding’ or ‘excellent’ as a student by their counselors before entering ABC, 84 graduated from the program, and their median twelfth grade rank in class was the 58th percentile. On the other hand, of 100 students rated ‘fair’ or ‘poor,’ only 61 remained until graduation, and their median rank in class was the 23rd percentile. Apparently, ABC schools were not particularly successful in working miracles among students who had not previously experienced success” (Conclusion, Academic Performance After High School section, para. 2).
- “Overall, during secondary school, the test scores of ABC students were not significantly affected by participation in the program. In fact, ABC students made somewhat less progress than their classmates” (Conclusion, Academic Performance After High School section, para. 3).
- Ninety-four percent of ABC students entered college after high school in comparison to 62 percent of control group students. This finding is based on the sample of 47 ABC students and 47 matched applicants who were not placed in the program.
- “ABC students attended colleges much more selective than the national average, but the control group attended colleges similar in selectivity to the national average” (Conclusion, College Attendance and Post College Activities section, para. 3).

Assessing the quality of evidence

The explanation of the methodology is very difficult to follow, particularly because so many different samples were used. Some comparisons were made with unmatched convenience samples, while others were made with comparison groups that, despite being matched on a few characteristics, do not seem comparable to the ABC participants. As a result, the program’s impact is likely overstated since a portion of the impact is likely attributable to the ABC students themselves, who are very exceptional prior to entering the program. Even without well-matched comparisons, the results were not very strong or favorable.

Advancement Via Individual Determination (AVID)

Program description

Advancement Via Individual Determination (AVID) was created in 1980 by a California English teacher who believed that underachieving students could succeed in a rigorous curriculum if they were given extra support. AVID is a college preparatory program that combines the two elements of academic rigor and support. The program “untracks” students by exposing them to a rigorous academic environment and advanced curriculum, including Advanced Placement and college-level courses. AVID students receive additional social and academic support through an elective class, which emphasizes reading, writing, critical thinking, and collaboration, as well as college entrance exam preparation, study skills, and time management. In addition, AVID students receive tutoring provided by trained college students. Other activities are designed to foster parental involvement in the college preparation process.

AVID programs select students who are not already enrolled in college preparatory coursework. In order to be considered for participation, students must be underachieving in the middle (i.e., earning B and C grades) and have potential to attend college. The program accepts students from any racial/ethnic and socioeconomic background; however, low-income, potentially first-generation students are targeted. Program coordinators select students for participation, usually on the basis of recommendations from school counselors.

AVID is most popular in California, where the program is state-funded, and in Texas, where the program has been adopted as a school-wide reform model. However, the program has also been implemented in several other states, as well as in countries outside of the United States. In the 2005-06 school year, over 2,300 middle schools and high schools hosted the AVID program (AVID, nd). Part of the success of the AVID program has been attributed to the training and ongoing professional development that school staff members receive. Each AVID site is required to send an interdisciplinary team, including teachers, administrators, and counselors, to one of the AVID Summer Institutes held throughout the country, where they learn the essentials for successful program implementation.

Evaluation methodology

Mehan, Villanueva, Hubbard, and Lintz (1996) evaluated AVID as part of their book on the consequences of untracking low-achieving students. The researchers consulted school records provided by the San Diego City Schools (SDCS) to identify students from the graduating classes of 1990, 1991, and 1992 who enrolled in AVID during their high school careers. Two groups of AVID students were identified: students who had

completed three years of AVID prior to graduation (AVID3) and students who left AVID after participating for one year or less (AVID1).

Of the students who were identified, the researchers were able to conduct interviews with 70 percent of the AVID3 students (N=248) and 51 percent of the AVID1 students (N=146). The interviews were conducted shortly after the students had graduated from high school. The students were asked about their family background, high school and AVID experiences, and activities after graduating from high school (i.e., college, work, and other).

The researchers also tried to track students beyond the first year of college; however, they were not able to achieve the sample sizes they desired. Although they completed interviews with 68 percent of students who had been out of high school for one year, they were only able to complete interviews with 32 percent of students who had been out of high school for two years. In addition to interviewing students, the researchers also interviewed teachers, parents, and school officials and conducted classroom observations.

The evaluation compares the college enrollment rates of AVID3 and AVID1 students with local (SDCS) and national averages, notwithstanding the researchers' reservations that the data are not comparable. The results were disaggregated by race/ethnicity (i.e., African American, white, and Latino).

Evaluation findings

The evaluation by Mehan et al. (1996) found the following results:

- Students who participated in AVID for three years enrolled in four-year colleges at rates higher than students who left AVID after one year or less (48% versus 34%). The researchers contend that this difference implies the impact of AVID is greater the longer students stay in the program.
- Students who participated in AVID for three years enrolled in four-year colleges at a rate (48%) that exceeded local (37%) and national (39%) averages. However, students who participated in AVID for only a short time (one year or less) had the lowest four-year college enrollment rate (34%).
- Both groups of AVID students, regardless of length of participation, enrolled in two-year colleges at a rate of 40 percent. This rate compared favorably with the local average of 34 percent.

- The overall college enrollment rate (two-year or four-year colleges) was highest for students who participated in AVID for three years (88%), followed by students who participated in AVID for one year or less (74%) and students locally (71%).
- AVID appeared to have the largest impact on students most at risk, including African American students, Latino students, first-generation students, and students from low-income families.
- Four-year college enrollment rates reflected students' academic background characteristics prior to entering the program. Students with the highest grades and test scores prior to program entry had the highest enrollment rate (65%), followed by students in the middle (45%) and low (28%) selection groups.
- “Students who complete three years of AVID enrolled in college in greater proportion than students who complete one year of AVID regardless of family income,” leading the researchers to conclude that “the capital that students bring with them into the program does not seem to be as important as the capital that students accrue while they are in the program” (p. 75).
- Of the students who enrolled in college directly after graduating from high school, 74 percent were still enrolled two years later.
- There was little upward mobility. Only 5 percent (8 of 168) of students who were working at the time of the post-high school graduation interview had begun attending two-year colleges by the time they were interviewed again one year after high school. Only 11 percent of students (2 of 18) transferred to a four-year college after attending a community college for two years.
- There was some downward mobility. Of the students who were attending four-year colleges at the time of the post-high school graduation interview, seven percent (12 of 168) had left the four-year college to attend a two-year college by the time they were interviewed again one year after high school. Eleven percent (3 of 27) of the students who were enrolled in four-year colleges at the time of the first follow-up interview had dropped out by the time of the second follow-up.

Assessing the quality of evidence

As the researchers acknowledged, this evaluation was limited by methodological flaws resulting in small sample sizes for the follow-up interviews, and even more importantly, by incomparable data. The researchers did not attempt to identify matched comparison students, but rather compared the outcomes for AVID students to local and national averages. However, the local and national data sources that were used for comparison

were not comparable to the AVID data. Although the researchers acknowledged this, they did not provide any information about the characteristics of the samples and how they differed, which would have helped contextualize the differences in outcomes. The results show that AVID students had higher enrollment rates in comparison to local and national averages, but since the reader does not know how the samples differed with regard to characteristics associated with academic success, the reader is unable to judge how meaningful the differences in enrollment really are. Considering that AVID students are already “academic survivors” prior to program entry (Plank & Karweit, 1997), it is likely that a portion of the program’s purported impact is a reflection of their academic background characteristics.

Although the data for the AVID3 and AVID1 students come from the same data source, the comparisons made between these two groups are also of concern. The researchers contend that “[s]tudents who entered the program at the same point in time but left after one year make an excellent comparison group because they were selected by AVID coordinators according to the same criteria” (Mehan et al., 1996, p. 25). However, they provide no further evidence to suggest that the two groups are comparable in other important regards. It is quite likely that there were systematic differences between those who stayed in the program and those who left after a short time – for example, differences in mobility, motivation, and achievement – that could impact college enrollment to the extent that it is difficult to attribute the differences between the groups to the impact of the program alone. In addition, the eligibility criteria for entry into the program were broad enough for the researchers to uncover within group differences in college enrollment associated with the achievement levels (low, medium, and high) of AVID students prior to program entry. Consequently, the difference in enrollment rates for AVID3 and AVID1 students may have more to do with differences in achievement prior to program entry than to the effect of the program over time. The researchers could have provided simple descriptive statistics about the groups to verify or negate this possibility; however, they did not. Therefore, the conclusions the authors draw about the relative effect of AVID depending upon the length of time spent in the program may be questionable.

College Pathways

Program description

College Pathways is a school-based college preparation program that has been implemented in low performing high schools in the Los Angeles Unified School District. The program is administered by the Fulfillment Fund in partnership with the participating schools.

Each participating school selects a small learning community of students who receive services as a cohort from ninth grade through high school graduation. A specially trained

teacher works with the cohort for all four years of high school. The College Pathways comprehensive curriculum is utilized in weekly and bi-weekly lessons centered on the core elements of personal self-assessment, cultural development, self-advocacy and empowerment, high school graduation readiness, and college readiness (Fulfillment Fund, nd).

The College Pathways program also provides students with important college information and academic enrichment opportunities. Students attend college/career fairs, internships, and academic enrichment programs organized by the Fulfillment Fund. The program sponsors field trips to visit college campuses, including some trips out-of-state, which occur at least once a semester. Students also receive academic support, counseling, assistance in formulating a postsecondary education plan, and scholarship support based on available funding.

Evaluation methodology

The College Pathways program has not been formally evaluated. According to Gándara and Bial (2001), the Center for Higher Education Policy Analysis has investigated claims of the program's effectiveness. However, the document that Gándara and Bial reviewed is an unpublished, internal document from the Center for Higher Education Policy Analysis (CHEPA), which we were unable to locate through our search procedures and inquiries to CHEPA. The information presented here is a summary of Gándara and Bial's (2001) review.

Unfortunately, Gándara and Bial did not provide information about the methodology that CHEPA used to investigate the program's claims of effectiveness. They did, however, state that CHEPA "found difficulty confirming the findings because of an inadequate record-keeping system" (Gándara & Bial, 2001, p. 28).

Evaluation findings

According to Gándara and Bial's (2001) review, CHEPA's investigation found the following results:

- Because of the inadequate record-keeping system, CHEPA found difficulty confirming the claims that "College Pathways students attended four-year colleges in substantially higher percentages than other similar students in the district and the state (about 30% versus 18% and 14%, respectively" (p. 48).
- "Nonetheless, it was clear that the program was having an impact on students' aspirations for postsecondary education" (p. 48).

- The program struggled with high attrition, and in particular, “a significant drop-off in program attendance after the 10th grade such that only between 29 percent and 44 percent of the original participants appeared to be in the program at the point of graduation” (p. 49).
- “Of those retained [through high school graduation], all were reported to go on to college” (p. 49).
- “[C]lassroom observations did suggest that students were being exposed to material and opportunities that would not have been available to them under ordinary circumstances, and this almost certainly had an impact on some students’ decision to pursue postsecondary education” (p. 49).

Assessing the quality of evidence

Without being able to review the CHEPA investigation, it is difficult to comment on the quality of this evidence. Based on what Gándara and Bial (2001) report, the evaluation was limited by poor data, and the findings seem suggestive at best.

College Reach-Out Program (CROP)

Program description

The College Reach-Out Program (CROP) is a statewide initiative created by the Florida Legislature in 1983. The program is designed for low-income and educationally disadvantaged students who are unlikely to attend a postsecondary institution without the support of the program. CROP serves students in grades 6-12 with the goal of strengthening their educational motivation and preparation. In 2003-04, CROP served 8,286 students, including 2,471 new students and 5,815 returning students (CROP, 2006).

CROP grants are competitive, and preference is given to projects that have established partnerships with two or more colleges, projects that receive additional funding from other sources, and projects that meet CROP goals and objectives. The specific activities and services provided vary depending upon the project. Typical program components include academic enrichment activities, career and personal counseling, positive role models, rigorous and challenging coursework, up-to-date training materials, board certified instructors, and tutoring.

Evaluation methodology

CROP conducts internal evaluations on an ongoing basis. The most recent report (CROP, 2006) covers the high school and postsecondary outcomes of the 2003-04 cohort.

The participant sample included 8,286 students in grades 6-12 who participated in CROP during the 2003-04 school year. Participant outcomes were compared to a random sample of 10,160 non-CROP public school students stratified on the basis of race and income. In addition, CROP students were compared to “all test takers of the statewide Florida Comprehensive Assessment Test (FCAT) and the College Placement Test (CPT) (CROP, 2006, p. 2).

“[D]ata matches were performed against databases in the K-20 Office of Equity and Access, the Division of K-12 Public Schools (DPS), the Florida Community College System (FCCS), the Florida Education and Training Placement Information Program (FETPIP), the K-20 Education Data Warehouse (EDW), and the State University System (SUS)” (CROP, 2006, p. 2).

Evaluation findings

The following findings were reported in CROP’s (2006) evaluation of the 2003-04 cohort:

High school outcomes:

- “CROP students in grades 9-12 had a higher Grade Point Average (GPA) than those in the stratified random cohort (2.39 versus 2.10)” (p. 6).
- “CROP students in grades 6-12 were absent fewer days in 2003-04 than students in the [stratified] random cohort (8.9 versus 10.2)” (p. 6).
- “In 2003-04 CROP students continued to receive standard diplomas and promotions to the next grade at significantly higher rates [78% and 86%, respectively] than students in the [stratified] random cohort [62% and 76%, respectively]” (p. 5).
- “CROP students, whose enrollment in the program is based, in part, on low academic performance, consistently perform as well as or better than the random stratified sample on the [Florida Comprehensive Assessment Test], but not as well as all test takers statewide” (p. 7).

Postsecondary outcomes:

- Ninety-three percent of 2003-04 CROP high school graduates and 86 percent of the stratified random sample who applied for a Florida Student Assistance Grant award were awarded funds.
- CROP students “passed each subtest [of the College Placement Test] at a rate lower than that of the [stratified] random cohort and students statewide...However, CROP

students continue to enter and graduate from postsecondary institutions at a high rate” (p. 9).

- “[Seventy] percent of 2003-04 CROP high school graduates with a standard diploma were enrolled in the Florida higher education system in 2004-05, compared with 61 percent of the stratified random sample” (p. 10).
- Sixty-five percent of CROP students who enrolled in community colleges had GPAs above 2.0 in comparison to 62 percent of the [stratified] random sample.
- “Eighty-three percent of CROP students and 78 percent of the [stratified] random cohort who enrolled in the [State University System] in 2004-05 had a GPA of 2.0 or higher during their freshman year” (p. 11).

Assessing the quality of evidence

Internal program evaluators tend to rely exclusively on unmatched convenience samples for comparison to participant outcomes as presented in annual reports. In contrast, the comparisons made in the CROP report are of higher quality because the evaluators randomly selected a comparison group stratified on the basis of race and income. This helps ensure that the race/income groups in the comparison sample are proportionately representative to the race/income groups in the participant sample.

On the other hand, other important variables associated with academic achievement – such as family background, academic achievement prior to program entry, school attended, educational aspirations, motivation, et cetera – were not accounted for. An unknown portion of the difference in outcomes between the participant and comparison groups, therefore, is likely attributable to systematic differences between the groups rather than participation in CROP.

In addition, the evaluators did not indicate whether the differences between the participant and comparison groups were statistically significant, and some of the differences seem substantively small. The considerable variation in program components from site to site complicates the interpretation of the program’s impact since it is unknown which components contribute to the program’s effectiveness.

For comparison purposes, the evaluation reviewed by Gándara and Bial (2001) (Postsecondary Education Planning Commission, 1998) – although very different from CROP’s evaluation in terms of the cohorts and outcomes examined – had comparably favorable results and similar methodological shortcomings (i.e., an unmatched comparison group and lack of preprogram comparison data).

GE Fund College Bound

Program description

In 1989, the GE Fund (General Electric's charitable foundation) made a substantial commitment to help schools improve their college-going rates by launching the College Bound program. The GE Fund selected high schools located in low-income, inner city communities near General Electric Company facilities. The selected schools were given five-year grants of between \$250,000 and \$1,000,000 in exchange for their commitment to double or substantially increase the college-going rate. The schools could either commit to a "whole school" reform effort or focus on a substantial target population.

The participating schools were required to consult with GE employees regarding the design of the program and to involve the GE employees as program volunteers. They were also required to make changes to curriculum and practices as needed to increase the college-going rates. Apart from these two requirements, the schools and their GE partners were given the flexibility to create and implement a program that best fit the needs of the school and community. Consequently, the schools developed a variety of strategies, activities, and services. Some of the typical components included new college-oriented classes, SAT preparation classes, homework assistance, college counseling, tutoring, mentoring, college visits, and after-school/summer school programs. However, schools varied in the emphasis, approach, and scope of their strategies, as well as in the extent of GE volunteer involvement.

Evaluation methodology

Researchers from Brandeis University received funding from the GE Fund to conduct a 12 month retrospective study of College Bound (Bailis, Melchior, Sokatch, & Sheinberg, 2000). The evaluation examined 10 years of program history (1988-1998). Data sources included interviews with program staff, volunteers, school and district administrators, and current and former GE Fund staff; site visits to each of the 17 sites; school data on college-going and program characteristics provided by each participating high school; and a telephone survey of 361 program graduates. In addition to measuring participant outcomes, the evaluation included an analysis of change in each school's performance over time.

The researchers, in consultation with College Bound representatives, decided that "it would not be possible to identify an appropriate set of comparison schools" (Bailis et al., 2000, p. 19). In order to determine whether within-school changes over time could be attributed to the program, the researchers conducted site visits to identify any other events that could have contributed to the changes over time. Although the researchers did identify other possible contributors, they were not of the scale and priority to explain the observed

changes. In addition, the researchers provided a context for the findings by comparing program results to national data on college-going and complementary programs.

Evaluation findings

The evaluation conducted by Bailis et al. (2000) found the following results:

- “College-going significantly increased at seven of the ten College Bound sites with sufficient data to draw conclusions. The greatest changes were at schools with low initial college-going rates (below 50%) and school-wide strategies. College-going more than doubled at four of the five sites with initial school-wide rates below 50 percent” (p. 3).
- “College Bound graduates were more likely to attend college than comparable students nationally [76% versus 71%]...The differences in college-going were particularly large for those whose parents had little or no college education [69% versus 53%]” (p. 3).
- “College Bound participants were more likely to go to four year (rather than two year) institutions than were members of the national sample [54% versus 45%]” (p. 21).
- College Bound students were more likely to complete their first year of college than comparable students nationally (88% versus 70%).
- “College Bound students were [26%] less likely to drop out of college without a degree (27% vs. 37%) than students nationally” (p. 4).
- Factors that contributed to the success of the program included “[t]he substantial size and relatively long-term nature of the GE Fund grant;” “The simple, clear, focused mission of College Bound;” “Strong, consistent leadership at the schools and at the local GE business;” “The integration of College Bound into a school-wide strategy for educational improvement;” and “A strong emphasis on student support: connecting young people with caring adults” (p. 42).

Assessing the quality of evidence

This evaluation was limited in several ways. First, the analysis was based on data provided by each school. However, the type of data collected and the methods used to collect it were not consistent from school to school, inhibiting any possible comparisons across sites.

Second, the researchers were unable to identify appropriate comparison schools, and as a result, the researchers were unable to provide an estimate of the size of the program’s

impact net of other factors. Although the researchers provided national data as a comparison, the national sample was not matched to the College Bound sample on characteristics associated with academic achievement. In addition, the average national college-going rate was based on a sample of students who graduated from high school between 1990 and 1992, whereas the majority of College Bound students graduated in 1998. Because the national college-going rate improved between 1992 and 1998, the difference between the College Bound and national samples is likely overstated.

The evaluation covered a diversity of program types, especially with regard to the ways in which activities were organized and targeted within the schools. Although this diversity made the analysis more challenging, it also allowed the researchers to compare features across sites and identify, through site visits and interviews with program and school staff, which features seemed to contribute most to the sustainability and success of the program.

Overall, the researchers were unable to conclude that the observed increases in college-going could be attributed to College Bound alone, and not other factors. However, the results clearly suggest that College Bound was a major contributor. Having established that there is a high likelihood that College Bound has made a difference, the researchers suggest that future research “focus on defining the characteristics of programs and schools that make College Bound more or less effective” (Bailis et al., 2000, p. 41).

Another issue for further consideration is the costs of the program. Because this type of program requires a substantial long-term financial commitment, it would be worthwhile to conduct some sort of benefit-cost analysis to examine whether the funding is producing impacts above and beyond what could be achieved through other, more cost-effective strategies.

I Have a Dream (IHAD)

Program description

I Have a Dream (IHAD) is an early intervention comprehensive support program that serves randomly chosen students, adopted as a class, from inner-city public schools throughout the country. The program is administered by local sponsors (generally wealthy families) who adopt an entire class of elementary school students (typically in third or sixth grade) and commit to supporting them academically and socially through high school graduation. The sponsors hire a full-time project coordinator who assists them in providing a range of services, including “tutoring, mentoring, employment, engagement in community service activities, and a variety of counseling, health, and social services” (Kahne & Bailey, 1999, p. 322). The sponsors and coordinators develop

long-term personal relationships with the students, allowing them to establish trust and tailor services to individual needs. In addition to providing academic and social support, the sponsors also promise to provide financial support in the form of “last dollar” scholarships for the students who graduate from high school.

Evaluation methodology

Kahne and Bailey (1999) conducted a two and one-half-year evaluation of the IHAD program. The analysis focused primarily on case studies of two IHAD programs based in Chicago: “Project Success” (PS) and “La Familia” (LF). When the evaluation began in spring of 1995, participants at PS were finishing 10th grade (N=40) and participants at LF were finishing 11th grade (N=52). The researchers conducted interviews with PS participants when they were juniors and seniors in high school and with LF participants when they were seniors. In addition, the researchers completed post-high school interviews with eight LF participants in order to gather information about their first year of college.

Program staff provided additional information about the students, including “records of their academic performance, [Project Coordinator] and staff perspectives on their social development, and information on the programmatic and environmental factors that influenced them” (Kahne & Bailey, 1999, p. 325). In addition, the researchers conducted over 100 program observations and completed interviews with parents and sponsors.

Because participants were selected for participation as an entire sixth grade class, the researchers created comparison groups of students who were sixth graders at the same schools the year before the adopted classes (i.e., students who were one year older than the participants). The central office provided the graduation rate for the comparison group, but could not provide student names due to confidentiality issues. As a result, the researchers were unable to conduct interviews with the comparison group students to determine whether they enrolled in college. Instead, they estimated the college attendance rate for the comparison group based on the college enrollment rate for students who attended Chicago high schools determined through a study conducted by the Chicago Panel on Public School Policy and Finance (as cited in Kahne & Bailey, 1999). These were likely overestimates given the very low socioeconomic profiles of IHAD schools.

Evaluation findings

- “The high school graduation rates of IHAD participants in LF (71%) and PS (69%) were roughly twice those of students from the control groups (37% and 34%, respectively)” (p. 327).
- “[T]he overall college attendance rate for IHAD participants in the two case studies [63% and 67%] was roughly three times that of our estimates for the comparison

group [20% and 18%]” (p. 327). This is a very impressive result, considering that the comparison group rate was likely an overestimate.

- The researchers identified several program features that appeared responsible for the success of the two programs, most notably “the creation of strong, trusting, and sustained relationships with youth” (p. 328) which “became avenues for motivation and for reinforcing norms of prosocial behavior and academic commitment” (p. 330).

Assessing the quality of evidence

Without a matched comparison group, the researchers were unable to measure the portion of impact attributable to IHAD net of other factors. The participant and comparison group students likely shared similar characteristics since they attended the same schools in sixth grade. However, the groups were not matched, so it is possible that they differed systematically on certain characteristics that may account for a portion of the difference observed between the groups. In fact, over half of the IHAD students were placed in parochial schools, which deserve partial credit for their success. Nevertheless, the difference in graduation and college enrollment rates was large enough to suggest that, even with other contributing factors, the IHAD program made a large impact.

It is important to note that the two sites that were evaluated are not typical sites. The researchers focused on the two programs that appeared to be the strongest with respect to implementation, record-keeping, and staff resources and stability. The researchers reviewed record data on the 10 other IHAD programs located in Chicago and found them to be less successful on average.

Indiana’s Twenty-first Century Scholars

Program description

Former Indiana governor Evan Bayh launched Indiana’s Twenty-first Century Scholars program in 1990 as part of the state’s framework for improving college access. The program is designed to help low-income students (as determined by qualifying for the Federal Free and Reduced Price Lunch program) prepare for and enroll in college.

Twenty-first Century Scholars is an early intervention program that targets students beginning in middle school. The program is based on a dual pledge process. In order to participate in the program, income-eligible students make a pledge in the eighth grade to do all of the following: graduate from an Indiana high school, maintain at least a 2.0 grade point average, apply for admission to an Indiana college, apply for financial aid, refrain from using illegal drugs and alcohol, refrain from committing a crime, and enroll full-time at an eligible Indiana college or university within two years after high school

(St. John, Gross, Musoba, & Chung, 2005). In exchange, the State of Indiana guarantees to help these students attend any public college in Indiana free-of-cost by covering any remaining tuition and fees not covered by other financial aid awards. Students who choose to attend an independent college instead of a public college receive a like portion of tuition costs.

In addition to providing the tuition incentive, the State of Indiana also provides college information and support services, including tutoring, mentoring, college visits, and activities for parents. The Indiana Career and Postsecondary Advancement Center (ICPAC) administered the program services until 1994, when the responsibility was shifted to the State Student Assistance Commission of Indiana (SSACI).

It is important to note that the Twenty-first Century Scholars program was created in tandem with other statewide education initiatives and reforms. For example, all Indiana students benefit from information and support services provided by ICPAC. In addition, all high schools are required to provide access to the Core 40 college preparatory curriculum, and state need-based grant programs provide financial incentives to students who complete the Core 40 diploma (Indiana's academic honors diploma).

Evaluation methodology

When Gándara and Bial reviewed Indiana's Twenty-first Century Scholars program in 2001, the program was judged to be a success based on statewide improvements in the number of students enrolling in higher education. In particular, "Indiana judge[d] its efforts at stimulating college matriculation as successful because its ranking in the nation on this indicator rose from 39th in 1986 to 20th in 1996" (Gándara & Bial, 2001, p. 59). However, formal evaluations of participant outcomes had not yet been conducted.

Researchers from the Indiana Education Policy Center received funding from Lumina Foundation for Education to conduct an evaluation of the Twenty-first Century Scholars program (St. John, Musoba, Simmons, & Chung, 2002). The evaluation examined the program's impact on increasing access to postsecondary education for students in the high school graduating class of 1999. Data sources included "a statewide survey of ninth-grade students, state records on Twenty-first Century Scholars and student aid, and state data on college students" (ibid., p. 15).

The researchers developed a multinomial logistic regression model to assess "the impact of the Scholars Program on college enrollment" (ibid, p. 15). In multinomial logistic regression, the odds of specific outcomes occurring are modeled as a function of independent explanatory variables. In the analysis for this evaluation, the outcome variable was postsecondary enrollment, with four possible categories: enrollment in

public four-year colleges, enrollment in public two-year colleges, probable enrollment in in-state private colleges, and probable enrollment out of state. The independent explanatory variables included “student background (gender, ethnicity, family characteristics), middle school grades, postsecondary aspirations, participation in the Twenty-first Century Scholars Program, and high school characteristics (percent Honors graduates, percent minority, percent poverty, and locale)” (ibid., p. 16). Using this method, the researchers were able to calculate the relative contribution that each of the independent explanatory variables had on college enrollment net of the other explanatory variables. The results were reported as odds ratios. As such, the researchers could compare the odds of having the outcome (i.e., enrolling in college) for students with different explanatory characteristics (e.g., Scholars versus non-Scholars, males versus females, etc.). In addition, the researchers reviewed statewide postsecondary enrollment trends that could have been influenced by the program and other state education reforms.

Lumina Foundation for Education funded a continuation of the study to examine the program’s impact on postsecondary persistence and degree completion (St. John, Gross, Musoba, & Chung, 2005). The evaluation examined the 1999 cohort of high school graduates “four years after enrollment in a public college (i.e., at the end of the 2002-03 academic year)” (ibid., p. 4). “The analyses controlled for the influence of student background, high school contexts and preparation, the type of public college attended, and college achievement” (ibid., p. 50). Comparisons were made between the attainment statuses of Scholars, non-Scholars who received other types of aid, and non-Scholars who did not receive aid.

Evaluation findings

Findings from the St. John et al. (2002) evaluation include the following:

- “Scholars were [significantly] more likely than non-Scholars to enroll in Indiana public and private colleges” (p. 2). Eighty percent of Scholars enrolled in Indiana public and private colleges as compared to 50 percent of non-Scholars.
- “Scholars and non-Scholars who received financial aid were [significantly] more likely to persist during the freshman year than those who did not receive aid” (p. 2).

Comparing Scholars to other income-eligible students who did not participate in the program, and controlling for the influence of other variables (student background, high school contexts and preparation, types of public college attended, and college achievement), St. John et al. (2005) found the following results:

- “After four years, 52.4 percent of eligible non-Scholars (low-income students with other types of financial aid) had either left school or had failed to earn even a two-year degree. This was true of only 47.1 percent of the Scholars” (p. 6).
- “Controlling for the influence of other variables, the analyses found that, after four years and compared with their low-income peers who received other types of financial aid: Scholars were more than twice as likely to have received two-year degrees” (p. 7), and “scholars did not differ significantly in their completion of four-year degrees...[or] in persistence without a degree” (p. 8).

Assessing the quality of evidence

These evaluations are quite solid. The researchers accounted for a wide variety of possible contributing factors in their regression models, helping them to isolate the independent contribution of program participation on access, persistence, and success net of other factors. They were also able to isolate the independent net effect of each of the other contributing factors, such as gender, race/ethnicity, income, etc. This allowed them to identify which groups had the highest likelihood of attending college, holding all other variables constant. However, the researchers did not examine how the variables interact and were therefore unable to identify for which groups participation in the program had the greatest impact. In addition, this methodology is limited in that any additional contributing factors that were not included in the model (e.g., self-selection into the program, other simultaneous statewide education initiatives) were consequently uncontrolled and could account for a portion of the impact.

Another potential criticism is that the presentation of results (i.e., odds ratios) is less accessible to a non-research audience. Because regression coefficients and odds ratios can be complicated to interpret, there is a preference in educational research to present logistic regression results as a percentage point increase/decrease (delta-p), representing the change in probability of having the outcome for those who have the characteristic in comparison to those who do not (Peng, So, Stage, & St. John, 2002).

Nevertheless, these results suggest that Indiana’s Twenty-first Century Scholars program, in conjunction with other statewide educational reform initiatives, is having a positive impact on postsecondary access, persistence, and success. Although the program appears to have less of an impact on persistence and success than on access, the results from the follow-up study are nonetheless encouraging, especially considering that the program was not designed to enhance persistence and degree attainment.

Neighborhood Academic Initiative (NAI)

Program description

The Neighborhood Academic Initiative (NAI) is an intensive college preparation program that was created by the University of Southern California (USC) in 1990. The program admits approximately 40 students from the surrounding community each year. Students are selected based on their stated willingness to learn and their parent or guardian's willingness to support them. Most participants are "average" students, earning B and C grades. Students begin the program in seventh grade and are supported through high school graduation.

Students in NAI receive intensive academic and social support within a highly disciplined environment. Participants take two hours of classes in English and math at USC in the morning prior to the start of school. Students attend classes on Saturdays, in which they discuss socio-emotional issues and learn study skills. Parents are also expected to participate in the program by attending Saturday morning sessions about six times per semester. Students enroll in extra courses during the summer.

NAI classes are taught by trained instructors from local area high schools. The teachers have an understanding of the local community and are thus able to bring cultural contexts into the classroom to help empower the students. In addition, students receive individualized counseling that covers college preparatory information as well as socio-emotional issues. Students who stay in the program through high school graduation and gain acceptance to USC receive a full ride scholarship.

Evaluation methodology

Tierney and Jun (2001) employed qualitative methods to evaluate NAI. The researchers spent two years conducting interviews with over 50 students, counselors, teachers, and program administrators. They collected life history data from five students and additional data through focus groups, observations, and document analysis.

Evaluation findings

- The percentage of NAI students who participated in the program through twelfth grade ranged from 54 percent for the graduating class of 1999 to 85 percent for the graduating class of 2004.
- Fifty-four to 65 percent of NAI students enrolled in two- or four-year colleges. In comparison, "[o]n a national level, the college-going rate for high-school students is approximately 40 percent..., and on a local level the schools from which these students come is below 20 percent" (Tierney & Jun, 2000, pp. 213-214).

Assessing the quality of evidence

This evaluation focused primarily on describing program features and theoretical frameworks. Little can be concluded from this evaluation with regard to participant outcomes. The researchers do not indicate the source for their program retention and college-going rates, and the percentages they report in the text seem inconsistent with those reported in the appendix. The college-going rates for NAI participants were high in comparison to national and local averages. However, the comparisons were not matched, and unknown differences between the groups account for an unknown portion of the observed impact. In addition, the rates were calculated based on a small number of students (ranging from 28 to 63 depending on the cohort), and participant outcomes varied considerably by cohort.

Posse

Program description

The Posse program, administered by the Posse Foundation, was founded in 1989 in order to address the feelings of isolation that can make it difficult for underrepresented students to succeed once in college. The “posse” concept was developed in response to students reporting that they needed their posse with them in order to succeed.

The Posse Foundation recruits public high school students using an innovative three-stage process of workshops and interviews (Dynamic Assessment Process) designed to identify students with extraordinary academic and leadership potential who may not have high enough grades or college entrance exam scores to be admitted through the traditional college selection process. The selected students receive four-year, full-tuition leadership scholarships provided by highly selective partner universities seeking to diversify their student bodies. The students are placed in multicultural teams, or “posses,” of 10 students who enroll together at the same college. In 2004, the Posse Foundation partnered with 22 colleges and universities, providing \$28 million in scholarships to 281 Posse scholars (Posse Foundation, 2004).

The primary goals of the Posse program are “1) to expand the pool from which top colleges and universities can recruit outstanding young leaders from diverse backgrounds; 2) to help these institutions build more interactive campus environments so that they can become more welcoming institutions for people from all backgrounds; and 3) to ensure that the Posse Scholars persist in their academic studies and graduate so they can take on leadership positions in the workforce” (Posse Foundation, 2004, p. 3).

The Posse program achieves its goals by providing scholars with preparation and ongoing support in addition to the scholarships. During the last year of high school through the

summer before college, Posse scholars participate in an eight-month pre-collegiate training program that covers team building, cross-cultural communication, leadership development, and academic excellence. Once in college, the scholars are supported by the campus program, which consists of regular meetings with staff, the campus liaison, and on-campus mentors, plus an annual weekend-long retreat with members of the larger student body. In addition, the career program provides scholars with internship opportunities, career services, and the alumni network as they transition from college to the workforce.

Evaluation methodology

The Posse Program was recently evaluated by The Conservation Company (TCC, 2004) under contract for The Posse Foundation. The evaluators collected qualitative data through focus groups with current Scholars (N=15), recently selected Scholars (N=18), mentors (N=11), program directors (N=4) and trainers (N=11), and Posse national staff members (N=9), as well as through individual interviews with Posse alumni (N=7) and university administrators and staff members (N=19). Quantitative data was collected through a comprehensive survey sent to 384 current Scholars, 174 of whom completed the survey (45%).

Evaluation findings

The TCC (2004) evaluation found the following:

- “The academic persistence rate among Posse Scholars continues to remain high with more than 90 percent of Scholars graduating from college” (p. iv).
- According to self-report data, “[n]early 50 percent of Scholars have GPAs of 3.0 or above and an additional 40 percent have GPAs between 2.5 and 3.0” (p. iv).
- The researchers identified the following as key program strengths: “the recruitment and selection process,” “the training program,” “enthusiastic and high-quality trainers,” “the availability of a supportive ‘posse,’” “engaged and committed mentors,” and “the availability of internship and career information and assistance” (p. v).

Assessing the quality of evidence

The evaluators did not include a comparison group, which would have helped contextualize the findings. Because Posse Scholars have exceptional academic and leadership potential prior to program entry, it is difficult to determine whether their participation in Posse contributed to their high academic achievement and persistence rates without comparing their outcomes to the outcomes of similarly exceptional non-participants.

The persistence rate as determined in this evaluation (90%) is comparable to the rate found in a different evaluation reviewed by Gándara and Bial (2001). Bowman and Gordon (as cited in Gándara & Bial, 2001) found that 93 percent of Scholars persisted in college as compared to approximately 85 percent for non-Scholars.

Post-secondary Enrollment Options (PSEO)

Program description

The Post-secondary Enrollment Options program (PSEO) was enacted by the Minnesota state legislature in 1985. PSEO offers high school juniors and seniors (regardless of whether they attend public, private, or home schools) the opportunity to enroll in courses with regular college students at eligible postsecondary institutions. The state of Minnesota reimburses the postsecondary institution to cover the cost of tuition. In addition, PSEO students are exempt from paying any fees and are provided textbooks that are returned to the postsecondary institution upon course completion.

PSEO students earn high school credit for the college courses they take. If students continue their education beyond high school, the college in which they enroll may choose to transfer the credits earned through PSEO as college credit. Usually credits are transferred without a problem at most Minnesota colleges; however, it can be harder for students to convince out-of-state colleges that are not as familiar with the PSEO program or colleges with very high academic standards to accept the completed coursework.

In order to participate, students must meet the admissions requirements of the postsecondary institution they wish to attend. PSEO does not specifically target underserved students; however, the program tries to make it possible for low-income students to participate by providing reimbursement for transportation costs. Nevertheless, the majority of participants are white females from middle to upper income families.

Evaluation methodology

Gándara and Bial (2001) reviewed an evaluation of Minnesota's PSEO program that was conducted in 1996 by the State of Minnesota Program Evaluation Division of the Office of the Legislative Auditor. The evaluation, which was based on considerable survey data, was primarily descriptive and did not include comparison or controls to assess student outcomes.

A similar type of evaluation was conducted in 2005 by researchers from the Center for School Change at the University of Minnesota (Nathan, Accomando, & Fitzpatrick, 2005). Information was gathered through a variety of methods, including a literature review, a review of web-based material, a survey of PSEO participants, interviews with

higher education officials who work with the program, analyses of state databases conducted by the Minnesota Department of Education, and a statewide poll measuring public attitudes towards the program.

Evaluation findings

The evaluation by Nathan et al. (2005) revealed the following key findings:

- “Participants most frequently cite the following benefits: learning more than in high school, saving time and money, and feeling more academically prepared for college” (p. 3).
- “PSEO enjoys strong support from participants: 97 percent were either ‘very satisfied’ or ‘satisfied’ with their experience; 86 percent of participating students would definitely participate in PSEO again” (p. 3).
- “PSEO has strong support from Minnesota residents: Statewide, 82 percent of those surveyed either strongly support or support PSEO” (p. 3).
- “Since 1985, more than 110,000 Minnesota students have used PSEO on college campuses. The majority of participants are female, white and middle to upper income. Access by other demographic groups could be improved” (p. 3).

Assessing the quality of evidence

These findings are consistent with the results of the previous evaluation conducted by the State of Minnesota (1996). Both evaluations found high satisfaction rates among program participants. However, neither evaluation was designed to measure the impact of the PSEO program on increasing the postsecondary access and success of underserved groups. In fact, the program is not specifically designed for underserved groups and more typically serves well-represented students who could likely attend college without the help of the program. The evaluators recommended improving access for underserved groups.

Project Graduation Really Achieves Dreams (GRAD)

Program description

Project Graduation Really Achieves Dreams (GRAD) was developed in response to the observation that an existing business-school partnership that provided high school students with extra academic resources and financial incentives was not having the desired impact on college-going rates. The services were offered too late in the educational pipeline to compensate for students’ lack of rigorous academic preparation in elementary and middle school. In order to address this issue, Project GRAD was

developed to serve as a comprehensive school reform model that affects change at all levels within a feeder pattern of schools.

Project GRAD was first launched in Houston, Texas, in 1993 by James Ketelsen, retired CEO of Tenneco, Inc., in collaboration with the Houston Independent School District. The Project GRAD model has been replicated both locally and nationally in urban, low-income school districts. Currently, Project GRAD operates in five feeder patterns in Houston, as well as in 12 school districts and 211 schools in eight states across the country, serving more than 131,000 students (Snipes, Holton, Doolittle, & Szejnberg, 2006). Project GRAD is overseen by Project GRAD USA and is managed at the local level by nonprofit organizations.

Project GRAD combines several research-based school reform initiatives. A set of core components are implemented at all levels of schooling: the provision of social services and academic enrichment opportunities (Communities in Schools and Campus Family Support), the implementation of a classroom management program (Consistency Management and Cooperative Discipline), and extensive professional development for school staff.

Other program components are designed for each level of the school system. In order to better prepare students academically, Project GRAD supports curriculum reform at the elementary and middle school levels. The recommended curricula include two nationally recognized, research-based programs for reading and math: Success for All and Math Opportunities, Valuable Experiences, Innovative Teaching (MOVE IT Math). At the high school level, Project GRAD components help create quality learning environments, encourage planning for college, and foster parental and community involvement in the schools. Students attend summer academic institutes on college campuses, receive college counseling, and participate in career exploration activities. High school students are required to take algebra to help ensure they are prepared for college.

The cornerstone of Project GRAD is the college scholarship awarded to students who complete all the program requirements, maintain a 2.5 grade point average, and graduate. The amount of the scholarship varies by site.

Evaluation methodology

A recent evaluation of Project GRAD was conducted by researchers from Manpower Demonstration Research Corporation (Snipes et al., 2006). The evaluation utilized a “comparative interrupted time series analysis” approach. In order to measure the effect of Project GRAD, the researchers compared student outcomes before and after program implementation and determined the extent to which student performance changed in the

presence of Project GRAD. Then, the researchers compared the change at Project GRAD schools to the corresponding change that occurred at similar non-Project GRAD schools in the same districts over the same time period. Similar schools were selected on the basis of “[a]verage performance on standardized achievement tests in the years immediately preceding program implementation” and “[t]he percentages of students in key demographic groups” (ibid., p. 32). In addition, the analysis controlled for changes over time in students’ characteristics, such as overage for grade and race/ethnicity. Using this approach, the researchers were able to estimate the impact of Project GRAD “over and above the effects of whatever reforms were present at the comparison schools or in the district as a whole” (ibid., p. 31).

The evaluation examined five project sites: the initiative’s flagship school, Jefferson Davis High School in Houston; two other high schools in Houston; and two expansion sites, located in Atlanta and Columbus. For the Houston sites, the evaluation covered seven to ten years of program history and several student outcome measures, including “attendance rates, test scores, promotion rates, credits earned, graduation rates, and the proportion of students completing a core academic curriculum” (ibid., p. ES-5). Data was more limited for the expansion sites, including a maximum of three years of follow-up data on attendance and promotion rates.

Evaluation findings

The evaluation by Snipes et al. (2006) found the following results:

- “At Jefferson Davis High School in Houston, the initiative’s flagship school, Project GRAD had a statistically significant positive impact on the proportion of students who completed a core academic curriculum on time” (p. ES-1).
- “As Project GRAD expanded into two other Houston high schools, these positive effects on students’ academic preparation were not evident. Student outcomes at the newer Project GRAD high schools improved, but generally this progress was matched by progress at the comparison high schools” (p. ES-2).
- “Project GRAD does not appear to have had an independent effect on the percentage of ninth-graders who later graduated from a Houston high school. At both the Project GRAD and comparison schools, the graduation rate slowly improved over the period of the study, but any differences between schools in the extent of improvement are not statistically significant” (p. ES-7).
- “Looking at early indicators of student success, the initial Project GRAD high schools in Columbus and Atlanta showed improvements in attendance and promotion to tenth

grade that appear to have outpaced improvements at the comparison high schools, although the differences are only sometimes statistically significant” (p. ES-2).

The researchers offered two hypotheses to account for the findings:

- First, the feeder patterns were “leaky” due to high mobility rates and school-choice options. Consequently, “a considerable proportion of ninth-grade students in the Project GRAD high schools had not been exposed to Project GRAD in earlier grades, and among those students who *had* pre-high school Project GRAD exposure, many did not receive the full treatment” (p. ES-8).
- Second, the Project GRAD initiative did not fully address “the central role that completing ninth grade on time plays in a student’s eventual completion of high school” (p. ES-8). The services offered in high school helped students who were already on track toward graduation. In order to help those who are not on track, the researchers recommended adding a “direct intervention in ninth-grade instruction” (p. 83).

Assessing the quality of evidence

The design of this evaluation is appropriate given the whole-school approach of the initiative. However, the researchers made the common error of calculating statistical significance based on the sample of students within the schools, whereas the unit of analysis is, in actuality, the school. Had statistical significance been appropriately calculated using the sample of schools, it is quite likely that none of the results would be statistically significant. In addition, several variables were not accounted for in the selection of comparison schools. Consequently, any unaccounted differences likely account for a portion of the observed impact. Overall, the results were not very strong. Given Project GRAD’s long-view strategy, more time may be needed before the program’s impact can be fully realized.

The evaluation reviewed here examined outcomes different from those measured in the evaluation reviewed by Gándara and Bial (2001), which focused primarily on factors associated with school climate. Nevertheless, Gándara and Bial (2001) identified the same set of problems: the high student mobility (resulting in inconsistent and limited exposure to the program) and the less intensive intervention at the high school level.

Puente

Program description

Puente (Spanish for “bridge”) began in 1981 as a program designed to help retain Hispanic/Latino students at Chabot Community College in Hayward, California. The

model was very successful, and the program's mission was refocused on preparing students for transfer to four-year colleges and universities. Puente was replicated in 54 community colleges, and based on its success, the program was adapted for high schools in 1993. A decade later the program was operating in 35 high schools throughout California (Puente, 2003).

Puente was designed to “serve the needs of the whole student in a carefully monitored, highly accountable and culturally integrated way” (Puente, 2003, p.5). The program achieves its goals through a combination of teaching, counseling, and mentoring. English teachers receive special training to deliver an accelerated curriculum that incorporates culturally relevant material and emphasizes critical thinking and writing skills. Students learn in small, cooperative learning communities that are supportive and culturally sensitive. The curriculum is integrated into the regular school day.

The rigorous academics of the program are balanced by a cross-functional support network. Trained counselors provide intensive academic and career counseling, and members of the local community serve as mentors. Teachers and counselors monitor student progress and provide ongoing support until students are ready to enroll in college. Other key components include parental involvement, leadership development, enrichment opportunities, and ongoing support.

Although Puente was initially designed for Hispanic/Latino and other underrepresented students, the program actively recruits and serves students of all ethnicities and backgrounds. The program also serves students with diverse achievement and motivation levels. In order to participate, students must express a desire to improve academically and to enroll in college, and their parents must commit to support them and to participate in program activities designed to foster parental involvement.

Evaluation methodology

Gándara and Bial (2001) reviewed an evaluation of Puente that was conducted in 1998 by Gándara, Mejorado, Gutiérrez, and Molina. The findings from this evaluation were more recently re-published in an issue of *Educational Policy* featuring Puente evaluations (Gándara, 2002). The researchers utilized quantitative and qualitative methods and three different samples of students to measure the impact of Puente on several outcome measures, including participants' aspirations, attitudes toward school, preparation for college, Grade Point Average, and college matriculation rates.

This review focuses on an evaluation that examined the long-term impact of Puente (Moreno, 2002). The researchers attempted to contact and interview members from Gándara et al.'s (1998) sample of 72 Puente and 72 non-Puente students from the same

schools who were matched on age, ethnicity, sex, eighth grade GPA, and reading scores. Interviews were conducted with 62 Puente and non-Puente students, or 31 matched pairs, representing 43 percent of the original sample. Students who had progressed on schedule would have been finishing up their second year of college at the time of the interview. Students were asked about “their plans after high school, (e.g., go to college, work, military), whether these plans had changed and why, their estimation of their preparedness for college (if they attended college), and their overall experiences in college” (Moreno, 2002, p. 574). Additional information was collected through third parties on 63 Puente students and 42 non-Puente students from the original sample of 144. The analysis examines “the influence Puente had on students’ college-going rates, their level of preparedness for college, and overall persistence when compared to their matched non-Puente counterparts” (ibid., p. 575).

Evaluation findings

The evaluation by Moreno (2002) found the following results:

- Puente students enrolled at higher rates than did non-Puente students in four-year colleges and universities (36% versus 29%), community colleges (36% versus 23%), and overall (72% versus 52%).
- A smaller percentage of Puente students went to work full-time right after high school than non-Puente students (19% versus 36%).
- Three-fourths (74%) of Puente students were enrolled in college two years after high school in comparison to 55 percent of non-Puente students.
- “All of the Puente students who enrolled in a community college after [graduating from high school in 1998] were still enrolled in spring 2000, whereas 71 percent of non-Puente students were still enrolled in a community college” (p. 580).
- “Puente students who had left four-year institutions did not do so because of inability to meet academic requirements. Rather, they were lacking in other skills, the ability to deal successfully with isolation or to know how to seek out support when they needed it” (p. 582).

Assessing the quality of evidence

The principal limitation of this study is the small sample size. Since the researchers were only able to conduct interviews with 43 percent of the original sample, it is possible that those who were interviewed differed systematically from those who the researchers were

unable to contact. This sample limitation could bias the findings. In addition, the small sample sizes inhibited conducting tests of statistical significance.

Nevertheless, longitudinal studies of a matched sample of students over seven years are rare, and the findings are consistent with those reported in Gándara et al.'s (1998) evaluation. The college-going rates differ slightly, but “there is a consistent difference of about 10 percent in favor of Puente students going to college” (Moreno, 2002, p. 576). The program does seem to have a positive effect on college-going rates, but more rigorous evaluation is needed to determine the program’s impact on postsecondary persistence and success.

Upward Bound¹

Program description

Created at the beginning of President Lyndon B. Johnson’s War on Poverty, Upward Bound is one of the largest and longest running federal education programs for low-income youth. Upward Bound began in 1964 as a pilot program and has since received funding under the *Higher Education Act of 1965*. When the act was amended in 1968, the federal government grouped Upward Bound and two other federal programs – Talent Search and Student Support Services – under the same umbrella as TRIO programs.

Upward Bound was originally designed to “encourage low-income youths to complete high school and prepare for college” (U.S. Department of Education, 2006, p. 1). The program has since expanded its mission beyond college preparation to focus also on college enrollment and success. Upward Bound projects are required to provide instruction in laboratory science, mathematics, composition, literature, and foreign language. Other program services include academic and financial counseling, tutoring, mentoring, assistance in completing financial aid and college entrance applications, college entrance exam preparation, information on postsecondary educational opportunities, work-study positions, and exposure to cultural events. Most services are provided at the hosting agency after school or on Saturdays. In addition, participants attend a six-week summer program, through which they receive intensive instructional preparation for college. Program implementation varies considerably depending upon the project.

Upward Bound projects are most commonly hosted by colleges and universities, although they may also be sponsored by public and private agencies and organizations, and in exceptional cases, by secondary schools. The program serves students in grades 9-12, and students can participate through the summer following twelfth grade. In order to be

¹ This discussion focuses on regular Upward Bound and does not include Veterans Upward Bound or Upward Bound Math and Science.

eligible for participation, students must meet at least one of two eligibility criteria: to be from a low-income family (household income below 150 percent of the poverty line) or to potentially be a “first-generation” college student (neither parent earned a Bachelor’s degree). At least two-thirds of the participants in each project must meet both of the criteria. Students are usually recommended for participation by educators, social workers, or clergy. In fiscal year 2005, Upward Bound served 56,450 students in 761 projects across the country. The average cost per participant in fiscal year 2005 was \$4,712 (U.S. Department of Education, 2006).

Evaluation methodology

The U.S. Department of Education commissioned Mathematica Policy Research, Inc. to conduct the national evaluation of Upward Bound. The evaluation, which began in December 1991, examined the implementation of the program and the program’s effects on student outcomes. In *Paving the Way*, Gándara and Bial (2001) reviewed a report by Myers and Schirm (1999) on the effects of Upward Bound on high school outcomes. These findings were updated with the completion of the third follow-up data collection in 2000, which covered the first few years after sample members left high school. This literature review focuses on the most recent report by Myers, Olsen, Seftor, Young, and Tuttle (2004), which includes the updated findings on the effects of Upward Bound on high school outcomes, as well as preliminary findings on the program’s effect on postsecondary outcomes.

The evaluation utilized a randomly selected, nationally representative sample of 67 Upward Bound projects hosted by postsecondary institutions. A baseline survey of students who applied to these projects was conducted from 1992 and 1994, and eligible applicants were randomly assigned to either a treatment (N=1,500) or control (N=1,300) group. The treatment group included students who were offered the opportunity to participate in Upward Bound (regardless of whether or not they took the opportunity), and the control group included those who were not offered the opportunity. Follow-up surveys were conducted with sample members in 1994-95, 1996-97, and 1998-2000, with high response rates of 97 percent, 86 percent, and 81 percent, respectively. Additional data sources included staff reports on students’ participation and high school and postsecondary transcripts.

The value-added of Upward Bound (above and beyond other available programs and services) was estimated by computing the differences in outcomes between the treatment and control groups. Although the treatment and control groups were statistically equivalent, the researchers controlled for some background characteristics, computing regression-adjusted estimates of program effects, to adjust for possible differences

between the samples. Two types of program effects were estimated: the effect of being offered the opportunity to participate and the effect of actual participation.

In order to examine whether the program benefited some students more than others, the researchers examined differences between subgroups of participants based on their educational expectations, academic risk, eligibility criteria, race, sex, likelihood of being selected to participate (based on project directors' ratings prior to random assignment), length of participation, and program completion/non-completion.

Evaluation findings

The evaluation by Myers et al. (2004) found the following:

Updated high school outcomes:

- Upward Bound significantly increased the number of high school math credits participants earned by 0.2 credits.
- Upward Bound did not affect other measures of high school academic preparation, including total credits; credits earned in science, English, social studies, or foreign language courses; honors and Advanced Placement credits; grades earned in high school; and high school graduation.
- For students with lower educational expectations, Upward Bound significantly increased the number of high school credits earned by 2.0 credits overall ($p < 0.10$), 1.8 credits for the core academic subjects together, 0.5 credits for math, 0.3 credits for foreign languages ($p < 0.10$), 0.2 credits for computer science ($p < 0.10$), and 0.7 credits for Advanced Placement and honors courses ($p < 0.10$).
- Upward Bound significantly increased the high school dropout rate for students with higher expectations from four percent to seven percent ($p < 0.10$). The authors do not offer an explanation for this result.

Postsecondary outcomes:

- Upward Bound did not affect enrollment at postsecondary institutions generally when all types of postsecondary institutions were considered and did not affect the number of credits earned at postsecondary institutions.
- For students with lower educational expectations, Upward Bound significantly raised four-year college enrollment from 18 to 38 percent and significantly increased the number of postsecondary credits earned at four-year colleges and universities from 11 to 22 credits.

- For students at lower academic risk, Upward Bound significantly raised four-year college enrollment from 52 to 59 percent and significantly raised the average number of credits earned at four-year colleges from 30 to 36 credits.
- For students who met both eligibility criteria (low-income and first-generation), Upward Bound significantly increased enrollment at four-year colleges and universities from 43 percent to 50 percent.
- “For white students, Upward Bound [significantly] increased overall postsecondary enrollment from 58 percent to 69 percent” (p. 42).
- For Hispanic students, Upward Bound significantly raised enrollment at four-year postsecondary institutions from 38 to 50 percent and significantly raised the average number of credits earned from 13 to 28 credits at four-year colleges and universities and from 30 to 38 credits at all postsecondary institutions ($p < 0.10$).
- “For young men, Upward Bound [significantly] increased the total number of postsecondary credits from 19 credits to 27 credits” (p. 50).
- For students who were most likely to be selected for Upward Bound, the program significantly raised four-year college enrollment by 10 percentage points.
- “For students who were least likely to be selected for the program, Upward Bound [significantly] increased the number of credits earned at four-year institutions from 9 to 33 credits” (p. 51).
- Although Upward Bound significantly increased enrollment at vocational schools from zero to four percent for students who met the first-generation criteria only, this increase was more than offset by the significant overall decrease in postsecondary enrollment for these students from 80 to 73 percent.
- Longer participation and program completion were associated with better student outcomes. High-duration participants and program completers had significantly higher postsecondary enrollment rates and credits earned than low-duration participants and program non-completers with similar demographic characteristics, educational aspirations, and ninth grade academic performance. However, the size of the effect was likely affected by selection bias (i.e., unobserved differences between the matched samples, such as motivation).
- Several other results were inconclusive because they were inconsistently significant depending upon whether or not students’ self-reported postsecondary enrollment was verified through college enrollment records.

Assessing the quality of evidence

This is a very solid evaluation that has the advantages of an experimental design. By randomly assigning students to the treatment and control groups, the researchers eliminated potential problems associated with selection bias and achieved internal validity, allowing inferences to be drawn about causal effects. In addition, the researchers achieved external validity by randomly selecting a nationally representative sample of projects. As a result, the findings are generalizable to the population of Upward Bound projects.

Despite its solid design, this evaluation has received some criticism, particularly because the control group received other supplemental services outside of Upward Bound (California State University, 2000). However, the researchers provide a solid rationale for allowing students in both the control and treatment groups to participate in other services: “[I]t is critical to the scientific validity of the study that students in the treatment and control groups have the same opportunities to pursue other services as the typical eligible applicant to regular Upward Bound” (Myers et al., 2004, p. 10). By allowing students to participate in other programs, the evaluation “provides estimates of the value-added of regular Upward Bound above and beyond other precollege programs and services that were available” (ibid., p. 10).

The results of this evaluation are consistent with the findings of the previous evaluation (Myers and Schirm, 1999). While the impact of Upward Bound for the average student was modest, the impact was larger for certain groups, including students who entered with lower educational expectations, students at lower academic risk, students who met both eligibility criteria (low-income and first-generation), white students, Hispanic students, and young men.

Based on the finding that the program had larger effects for students with lower educational expectations, the researchers suggest that “Upward Bound might have larger effects on enrollment in four-year postsecondary institution if it served a larger proportion of students who did not expect to obtain a bachelor’s degree when they applied for Upward Bound” (Myers et al., 2004, p. 40). However, as Gándara and Bial (2001) point out, serving a different mix of students could alter program dynamics and potentially weaken the effectiveness of the program, especially if the lower expecting students do well in part because they are in a program with students who have higher expectations.

Examination of additional programs

Seven additional programs with evaluation data on postsecondary outcomes were identified for inclusion in this review.

College Now

Program description

College Now is the City University of New York's (CUNY) major collaboration with the New York City Department of Education. This dual enrollment program is open to New York City public school students through a partnership between the schools and campus-based College Now programs. The program's beginnings date back to a 1984 dual enrollment agreement between Kingsborough Community College and a handful of Brooklyn high schools. In response to rising graduation standards statewide and the elimination of remediation at CUNY senior colleges in 1999, CUNY and the (at that time) New York City Board of Education made a joint commitment in 2000 to expand College Now system-wide for both institutions. That commitment to institutional cooperation ultimately led to an infusion of approximately \$11 million in new city funds dedicated to support College Now, and the expansion of the program to all 17 of its undergraduate campuses.

The program now serves over 30,000 students in more than 287 New York City public high schools. Its defining goals are to help students meet high school graduation requirements and prepare for success in college. Students can learn about the course offerings and apply to the program through their school's College Now liaison. Students who do not attend partner schools can also participate, depending upon seat availability and their qualifications, by contacting a campus-based program coordinator. Other eligible participants include private school students with disabilities whose tuition is paid for with public funds, and home-schooled youth as long as they can provide proof of registration with the New York City Department of Education. Although the program is open to all public school students, the program strives to serve a group of students that is representative of the New York City public school population. The majority of participants are students of color, and most come from low-income families.

College Now provides qualified students with the opportunity to take free college-level courses and earn college credits while still in high school. Some courses are offered for both high school and college credit. Enrollment qualifications for taking college credit courses vary from campus to campus. In general, Regents scores, SAT or PSAT scores, and/or GPA are considered. Some campuses prefer that students complete a noncredit course before they can enroll in a college credit course. Noncredit courses are

developmental courses designed for students who are not yet ready to take college level courses. Enrollment in noncredit courses is contingent upon having a good attendance record and earning an “acceptable” PSAT score, SAT score, or GPA.

The program varies from site to site, as campuses are given flexibility to draw on their strengths. Some College Now courses are taught on the college campus by professors, while others are taught at high school by qualified teachers who have been selected by the colleges. The college-credit courses are generally offered before regular school hours so that they do not interfere with the high school schedule. Courses that are offered for high school credit can be taken during the regular school day. College Now courses are generally composed entirely of College Now students (called CN-only sections or cohort courses). Less often, College Now students take courses with matriculated undergraduate college students (through tuition waivers).

In addition to the courses offerings, College Now provides other opportunities that help students develop skills and sample the college experience. Some of the other offerings include college preparatory workshops, pre-college foundation courses, arts and music workshops, summer programs, and campus events. The program also supports teaching and learning more broadly by providing professional and curriculum development to high school teachers and administrators.

Evaluation methodology

CUNY’s Collaborative Programs Office of Research and Evaluation conducts research on the impact of the College Now program. Preliminary findings from a study that is currently underway were presented at the American Youth Policy Forum in 2005 (Garvey, Meade, Cochran, & Lee, 2005). The researchers are currently in the process of writing a report on the findings and were able to provide an unpublished internal document containing tables of the results (Garvey, Meade, Cochran, & Michalowski, 2006).

The researchers conducted a multivariate analysis using data from CUNY student records. The analysis examined two cohorts (fall 2002 and fall 2003) of first-time freshmen who enrolled in CUNY within 15 months of graduating from New York City high schools and who had completed high school transcripts. Multiple regression analysis was used to estimate the difference in credits earned in the first year, GPA at the end of the first year, and the probability of returning for a third semester for students with and without College Now experience. Several factors potentially related to college performance were held constant in the analysis, including race/ethnicity, family income, gender, age, academic preparedness (measured by high school GPA and standardized test scores), high school and college attended, participation in the College Discovery or

SEEK programs, part-time attendance, and whether a student changed colleges during their first year at CUNY.

Evaluation findings

The analyses by Garvey et al. (2005 and 2006) found the following statistically significant advantages associated with participation in College Now:

- Associate degree students with College Now experience earned 0.77 more credits by the end of the first year and had a 5.3 percentage point higher probability of returning for a third semester than associate degree students without College Now experience.
- Baccalaureate degree students with College Now experience earned 0.50 more credits ($p < 0.07$) and a 0.07 higher GPA by the end of the first year and had a 3.0 percentage point higher probability of returning for a third semester than baccalaureate degree students without College Now experience.
- For students across both associate and baccalaureate degree programs University-wide, students with College Now experience earned 0.60 more credits and a 0.06 higher GPA by the end of the first year and had a 4.6 percentage point higher probability of returning for a third semester than students without College Now experience.
- When descriptive statistics for students who entered CUNY in fall 2002 and fall 2003 are analyzed, those who participated in College Now persisted to a third semester at rates 9-10 percentage points higher than their non-College Now counterparts. Inferential statistics show the impact of College Now on one-year retention is larger for students enrolled in community colleges than for students enrolled in senior colleges.
- When results were disaggregated to compare the program's impact for students of different achievement levels (high, middle, and low achievers), the impacts were not consistently observed for both cohorts examined. The results were also less consistently significant when broken down by program (associate, baccalaureate) than when students across both degree programs were considered aggregately.

Assessing the quality of evidence

Although several factors potentially related to college performance were controlled for in the analysis, the researchers were unable to account for other important, unobservable characteristics, such as particular facets of school environment and students' motivation. As a result, the authors acknowledge that the explanatory power of their analysis is potentially limited by selection bias. Because participation in College Now is voluntary, it is likely that the students who choose to participate have higher levels of motivation

than non-participants. The fact that College Now participants had better outcomes than non-participants may have more to do with the participants' higher personal motivation than with program effects. In order to demonstrate the impact of the program, the authors are in the process of obtaining pre-College Now academic skills data so that the link between participation and improved outcomes may be more clearly illustrated. Once self-selection is partially controlled for through the use of academic skills as a proxy, the authors can better answer the question: What exactly is it about participation in College Now that leads to better outcomes? Future analysis will focus on the effect of particular College Now programs taking into consideration the types of activities and courses offered by these programs.

As the research stands at this point, given the very large sample size (13,248), even very small differences between participants and non-participants are statistically significant. As a result, it is important to consider the *substantive* significance of the results and not merely whether they are statistically significant. For example, the additional credits earned by participants in their first year (0.50 – 0.77 credits) seems substantively small given that the typical college course is worth three credits. It is also difficult to conclude definitely that the improvement in GPA (0.06 – 0.07) and increased probability of returning for a third semester (3.0 – 5.3 percentage points) are substantively significant. Conclusions about College Now's impact are also limited by the fact that some of the results were inconsistently significant across cohorts when disaggregated by achievement level and degree program.

It is also important to keep in mind that the results presented here do not reflect College Now's impact on all students who participate in the program, but rather on the subset of participants who successfully enrolled in college. In addition, it would be worthwhile to examine whether the program increases college enrollment for students who participate (perhaps disaggregated by level of participation) in comparison to similar non-participant peers.

Early Academic Outreach Program (EAOP)

Program description

The Early Academic Outreach Program (EAOP) is the largest and most comprehensive of sixteen Student Academic Preparation and Educational Partnerships (SAPEP) programs administered by the University of California (UC). EAOP was created in 1978 when two former UC outreach programs were combined. The focus of EAOP is to increase access to postsecondary institutions – and to UC in particular – for educationally disadvantaged

students. Program goals include increasing ‘a-g’ course completion,² increasing readiness for four-year colleges, and increasing college-going rates.

EAOP is a distributed program with offices on each UC campus. The offices develop partnerships with local middle schools and high schools. Students at participating schools can apply to join the program beginning in middle school (most middle schools begin with 7th grade; some begin with 6th grade), and the program serves students through twelfth grade. Students are admitted into the program yearly. EAOP selects participants based on five criteria: 1) low family income; 2) enrollment/current attendance at a school with limited college preparatory curriculum; 3) member of first generation in one's family to attend college; 4) residence in a community with low college going rates; 5) attendance at a school with below-average SAT/ACT exam scores. The application process varies from campus to campus, but the selection committee generally seeks students who are educationally disadvantaged, yet highly motivated with a commitment to achieving academic excellence.

During the 2004-05 school year, EAOP served 39,803 cohort participants in grades six through twelve. In some cases, the campus serves the entire student body of the partner school rather than selecting individual cohort members. In 2004-05, EAOP served 58,722 partner school participants, bringing the total to 98,525 students served at 309 schools. Although large, the number of students served had been even higher in previous years. However, EAOP was required to reduce cohort participation by 59 percent between 2002-03 and 2004-05 due to cuts in state funding.

EAOP works with the schools to supplement and enhance curriculum and services rather than to replace or duplicate them. EAOP and the schools work together to increase achievement by supporting school counselors, building academic rigor in the classroom, and promoting P-16 alignment. Four core components define the program: academic preparation, college entrance exam preparation, ‘a-g’ advising, and college knowledge for students, families, and educators. The specific way in which the program is implemented varies from campus to campus because each office is given the flexibility to address and incorporate the core components through the provision of activities and services that are consistent with student needs, faculty and student interests, and campus strengths.

² The “a-g requirements” is a college preparatory course sequence that is required for admission to UC. Students must take 15 units (unit = two semesters) of high school courses, seven of which must be taken during the last two years of high school. The requirements are as follows: A) two years of history/social science; B) four years of English; C) three years of mathematics required, four years recommended; D) two years of laboratory science required, three years recommended; E) two years of a language other than English required, three years recommended; F) one year of visual and performing arts; G) one year of college preparatory electives. Completing the “a-g requirements” is the first step of the application and acceptance process to UC, and it is often the most complicated hurdle for students (Quigley & Leon, 2003).

Some of the many services provided include individual academic planning and ongoing advising; transcript evaluation; advanced courses; test preparation workshops and classes; family activities; information about college admissions, financial aid resources, and personal development services; campus visits; opportunities to work on research projects with university faculty and students; on-campus residential experiences (“boot camps”); access to UC Gateways, an on-line college planning resource; and special events and activities. Cohort participants tend to receive more intensive services compared to partner school participants who receive general advising services and academic preparation planning. The majority of the program services are provided at the schools by UC campus staff who visit regularly. Saturday and summer academies are held on the college campus, and other services may be provided at community-based organizations that partner with the program.

Evaluation methodology

A recent evaluation examined the impact of EAOP on high school students’ completion of UC’s preparatory coursework by comparing EAOP participants with similar non-participants (Quigley & Leon, 2003). However, the evaluation did not examine any outcome measures of postsecondary access or success.

EAOP conducts internal evaluations on an ongoing basis. As a UC SAPEP program, EAOP is required to report measurable impacts in order to demonstrate progress towards goals established in the UC Accountability Framework for SAPEP programs. In order to continue to receive state funding, UC is required to present an annual report on the SAPEP programs to the state legislature. The report (UC SAPEP, 2006) includes an assessment of progress towards meeting goals and objectives. Participant outcomes at posttest are compared to statewide results and, when available, to non-participants with similar characteristics. However, the evaluation does not meet the standard of a quasi-experiment because the comparisons were not matched and no baseline data was collected.

In addition to the SAPEP report to the legislature, EAOP publishes annual reports that present results based on program records. The type of data is similar to that presented in the report to the legislature, and likewise has the same shortcomings.

Evaluation findings

- The ‘a-g’ completion rate for EAOP participants (73%) exceeds the statewide UC/California State University (CSU) course completion rate of 34 percent as reported to the California Department of Education (UC SAPEP, 2006).
- “Nearly three out of four EAOP graduates sampled (5,170 of 7,015 or 73.7%) completed the ‘a-g’ sequence with a grade of C or better. In comparison, 33.7 percent

of all California high school graduates completed the ‘a-g’ with a grade of C or better” (UC SAPEP, 2006, p. 8).

- “In a sample of 13 schools of high school graduates in the class of 2004, 56.3 percent of participants completed the CSU ‘a-g’ course pattern with a grade C or better and took the SAT I or ACT in comparison to 18.8 percent of non-participants” (UC SAPEP, 2006, p. 8).
- EAOP participants are twice as likely to complete the ‘a-g’ sequence by the end of 12th grade as are non-participants (Quigley & Leon, 2002).
- “In 2003-04, 39 percent of EAOP students were UC eligible, compared to 14.4 percent statewide” (UC SAPEP, 2006, p. 8).
- “Of EAOP graduates in 2004-05, 66.5 percent enrolled in 2- or 4-year college/ university in the year following high school graduation” (UC SAPEP, 2006, p. 8).
- Of the 17,215 EAOP seniors who graduated in 2003, “more than one-third [36%] were eligible to attend the University of California, and half went on to enroll in a state college or university.” In comparison, “40 percent of the lowest scoring schools see fewer than 3 percent of their ninth graders go on to attend the University of California.” (EAOP, 2004, p. 1).

Assessing the quality of evidence

These findings need to be interpreted with caution because the comparison groups in both the report to the legislature and the annual report were unmatched convenience samples. Consequently, program impacts could be either overstated or understated depending upon the characteristics of the students. In addition, neither evaluation clearly elucidates the sampling procedures. Because of the possibility that the sample could have been selected in such a way as to maximize the outcomes (e.g., including only participants from schools where the program has been most effective), it is impossible to know whether or not the results reflect a fair representation of all EAOP participants.

Another caveat is that the evaluations were conducted internally. Because program funding is partly contingent on program outcomes, evaluations conducted for the purpose of demonstrating progress to funders are more likely to be biased (whether intentionally or unintentionally) than evaluations conducted by external parties. The desire to present results in the best possible light is apparent in some of the unbalanced comparisons that were made. For example, the annual report compared the college enrollment rates of EAOP participants who had graduated from high school to ninth graders from the lowest scoring schools. This is a very unbalanced comparison for two reasons. First, one-third

of EAOP schools are *not* lowest scoring, yet the comparison group included students from the lowest scoring schools only. Second, the EAOP enrollment rate is calculated based on high school graduates (students who have already demonstrated success), whereas the comparison rate is calculated based on ninth graders. Basing calculations on graduates overstates program outcomes because participants who do not graduate are excluding from the results.

A third shortcoming is that the evaluations focused primarily on preparation but included few measures of actual enrollment and no indicators of postsecondary success. Since academic preparation and ‘a-g’ advising are core components of the program, it is unsurprising that EAOP participants were more likely than non-participants to complete the ‘a-g’ sequence by the end of 12th grade. The evaluators assume that increased preparation translates into increased enrollment. However, it is important to keep in mind that ‘a-g’ course completion is only one of many factors that contribute to enrollment in postsecondary education. While it is true that students who complete the ‘a-g’ sequence are more likely to enroll in college than students who do not complete the sequence, there are still several barriers that could impede enrollment even for students who have completed the ‘a-g’ sequence, such as financial barriers, family obligations, and competing interests. Since one of the goals of EAOP is to increase college-going rates, it would be worthwhile for program evaluations to include measures of actual enrollment. Because of the lack of adequate measures, the evaluations reviewed here do not provide solid evidence that EAOP participation increases actual enrollment and success in postsecondary education.

Gateway to Higher Education

Program description

Gateway to Higher Education (GHE) is a four-year secondary school program that has been implemented in New York City high schools for over 15 years. GHE provides rigorous pre-college academic preparation to underrepresented minority students who are interested in pursuing majors in science, technology, engineering, and medicine. The program admits about 200 ninth graders each year, for a total of over 800 students in grades nine through twelve.

To be eligible for participation in the program, students must be at or above grade level in reading and mathematics, achieve an academic average of 80 or above (out of 100) in junior high, and demonstrate motivation through regular attendance. Since GHE is aimed at students who are underrepresented in science, technology, and medical careers, nearly all participants are youth of color, and most are from low-income or lower-middle income families.

The GHE program challenges students with a rigorous curriculum and high expectations. Participants take their math and science classes with others participating in the program. Class sizes are limited to 25 students at most, and all science classes have a laboratory component. As part of an extended school day, the students enroll in an additional period of math or science and participate in small group study and after-school tutoring. In addition, the school year is extended, with academic summer programs which provide students with experiences at research laboratories and universities. The students also gain knowledge and experience through internships and field trips to museums, concerts, and performances.

GHE participants begin receiving information about college when they are in ninth grade. The program sends students on campus visits and holds college fairs for students and informational seminars for parents. Participants are expected to take the SAT-I and SAT-II college entrance examinations, and the program pays the testing fees. Participants are also expected to take advanced placement courses, with an average of three courses taken.

Evaluation methodology

An evaluation of the Gateway to Higher Education was published in 1998 (Campbell, Wahl, Slater, Iler, Moeller, et al., 1998). The study included a reanalysis of existing quantitative data and the comparison of a one-year cohort of Gateway students with a retrospective matched comparison group of non-participants. The sample included 136 Gateway students and 136 comparison students matched on expected graduation year (1993), gender, race/ethnicity, Seventh Grade New York City Math Test score, and Seventh Grade Degrees of Reading Power test score. No socioeconomic status data was available. All comparison students met the academic criteria to be eligible for the program, but there was no way to account for differences due to self-selection into the program. In order to partially compensate for the lack of random assignment, the researchers decided to be conservative in the calculation of percentages, counting students who dropped out of Gateway (for whom there was no data) as not graduating from high school and not attending college, even though they may have, in fact, graduated and enrolled.

Available data for both participants and non-participants included SAT scores, status (i.e., graduated, dropped out, left district), and New York State Regents exams taken. A wider variety of data was available for 1,753 Gateway students as well as from a four-year follow-up survey of Gateway graduates; however, comparable data was not available for the comparison group.

In addition to the post hoc comparison, the evaluation also included an analysis of academic success data over nine years of Gateway students and an analysis of qualitative

data collected by the research team, including visits to the Gateway high schools, interviews with college admissions staff, and interviews/focus groups with program participants and graduates.

Evaluation findings

The Campbell et al. (1998) evaluation found the following:

- “Gateway students were significantly more apt to graduate from high school [93%] than were the matched comparison students [73%]” (p. 302).
- “Ninety-three percent (117) of Gateway students took the SAT at least once compared to 15% (18) of the comparison students” (p. 303).
- “Gateway students had a significantly higher combined SAT score than their matched comparison students (930 vs. 836)” (p. 303).
- Gateway students completed more academic high school courses with an emphasis on math and science than did non-participants.

Although comparison group data were not available for the college attendance and retention indicators, Gateway students enrolled in and graduated from college at high rates:

- “Of the total pool of entering Gateway students, 77 percent (804) were attending colleges; however, of the students who remained in Gateway through high school graduation, fully 92 percent were attending college” (p. 305).
- Of the 177 former Gateway students who completed a follow-up survey four years after graduating from high school, 94 percent (167) had either graduated or were still making progress toward a bachelor’s degree and 52 percent remained in math, science, or engineering/technology.
- “The overall mean graduation rate for colleges attended by four or more Gateway students that provide[d] graduation rate data [was] 73 percent” (p. 306).

Assessing the quality of evidence

The evaluation found that GHE had significant impacts on high school graduation rates and academic preparation (i.e., SAT test taking, SAT scores, math and science classes taken). Some of the findings – that Gateway students completed more math and science courses and that more Gateway students took the SAT than comparison students – are unsurprising given that math and science courses and SAT test taking are components of the program. On the other hand, the higher graduation rates and SAT scores achieved by

program participants are better indicators of the program's potential impact. However, the impact might be somewhat overstated given that the analysis could not control for self-selection. The improved outcomes for Gateway participants may reflect the students' personal motivation in addition to potential program effects. Although Gateway students enrolled in and graduated from college at high rates, these positive results cannot be definitely attributed to the program without appropriate comparison data.

Helping Teens Succeed, College Transitions Program

Program description

Helping Teens Succeed, Inc. (HTS) is a nonprofit organization that was founded in 1997 by a high school English and journalism teacher who was troubled by the discrepancies she noticed between private, suburban schools and public, inner city schools. She founded HTS with the mission of "help[ing] low-income students achieve their dreams of going to college" (HTS, 2005, p. 1). HTS works towards this mission by sponsoring three programs: College Transitions, Summer Program for Academic Richness (SOAR), and On Track. Evaluations thus far have focused primarily on the College Transitions program (for information on SOAR and On Track, please visit the program's website).

College Transitions is a year-long elective course for high school seniors who are planning to attend college. The course, which is offered at school during regular hours, helps students learn how to navigate the college preparation and application process by breaking down information barriers and empowering students through skills development. "The class curriculum includes six weeks of SAT preparation, plus modules on career exploration, the college search, essay composition, time management, study skills, research skills, [and] oral presentation" (HTS, nd, What is College Transitions? section, para. 4). There is also a module on real life finances, through which the program assists students in finding and applying for scholarships and financial aid.

The program was originally implemented in high schools in and around Atlanta, Georgia, where HTS is based. With the help of a grant from the U.S. Department of Education and the Georgia Board of Regents, HTS expanded College Transitions between the 2002-03 and 2004-05 school years to high schools throughout the state of Georgia. Schools that serve primarily low-income students were selected to participate by coordinators from the Georgia Board of Regents Post-Secondary Readiness Enrichment Program (PREP). Between 2003 and 2005, the course was also offered at nine schools in Washington, D.C. Program staff believe the course is equally effective in rural and urban settings.

Participating sites are supported by grants and receive, free of cost, the College Transitions curriculum package, including textbooks, workbooks, supplies, and materials.

HTS staff conduct one day training sessions with the teachers and provide ongoing technical assistance throughout the year.

The program sites are given a lot of flexibility to administer the program according to their needs. The way in which students are selected into the program varies from site to site. In general, school counselors help guide enrollment into the course, and they try to target low-income students specifically. As a result, the majority of program participants come from low-income families and are often the first generation with potential to attend college.

Continued support from private funders, including the Robert W. Woodruff Foundation and the Lumina Foundation for Education, among others, has made it possible for HTS to continue to offer the course at numerous locations. Currently, the College Transitions course is offered at over 35 high schools in Georgia. In addition, the program has expanded beyond the traditional high school setting. Last year, College Transitions was piloted in an after school setting at three Boys and Girls Clubs. The course is also offered at Performance Learning Centers that target students at risk of dropping out.

Evaluation methodology

An evaluation of the College Transitions program was conducted by an external evaluator (Clark, 2006). The evaluation examined differences in experiences, aspirations, and achievement of students enrolled in the College Transitions class and those not enrolled. The design was quasi-experimental, with a comparison group matched by gender, race, GPA, and socioeconomic status (as determined by school lunch status). However, the integrity of the matching procedure was lost in the second year of the study when entire classes of students were added to the control group based on teachers' impressions of their similarity to the College Transitions Course. Although the participant and comparison groups held very similar attitudes and perceptions, it is unknown whether the groups were similar with regard to socioeconomic status or academic achievement (due to lack of data). The control group was small in comparison to the participant group, and included more whites and students with better educated parents. In addition, the groups likely differed due to factors associated with self-selection into the program.

Data were collected from teachers and students in questionnaires conducted at the beginning (pretest) and end (posttest) of the 2003-04 school year. The questionnaires were designed to gauge teachers' attitudes towards the course content and expectations for their students, as well as students' college and career aspirations, attitudes toward education, and perceptions of support. Follow-up telephone surveys were conducted with students in fall 2004 and fall 2005, but very few students participated in both years of the survey. Students were asked about their educational experiences, aspirations, and plans.

In addition, qualitative data were collected in interviews conducted with students and teachers at several schools.

Evaluation findings

The Clark (2006) evaluation found the following:

- College Transitions students were significantly more likely to be enrolled at a University (63.0%) than students in the control group (39.1%).
- “Of the students who were enrolled in an institution of higher education, College Transitions students were [significantly] more likely than their control group counterparts to be enrolled full-time (94.0% versus 73.3%)” (p. 3).
- “College Transitions students reported that the class was helpful in getting them into college and they said their transition to college life was easier than did control group students” (p. 14).

Assessing the quality of evidence

These results suggest that College Transitions positively impacted college enrollment rates. However, due to the known and unknown differences between the participant and comparison groups, the results are not definitive because a portion of the observed impact could be attributed to factors other than program effects, most notably the personal motivation of students who chose to take the course.

Quantum Opportunities Program

Program description

The Quantum Opportunities Program (QOP) was a four year demonstration project designed to test whether community-based organizations could help increase the educational achievement and social competencies of highly disadvantaged youth. The program provided year-round services, assistance, and coaching to participants beginning in ninth grade and continuing through high school. Some of the opportunities provided to participants included educational activities (tutoring, computer-assisted instruction, and other educational services), community service activities, and development activities (life skills, health information, family planning, and college and career planning). Services were provided after school at community agencies and sometimes at school. The participants received small financial incentives for their participation. In addition, participants were paired with caring adults who served as their mentors during the four years of high school.

Funded by the Ford Foundation, QOP was launched in 1989 at five sites: Philadelphia, Oklahoma City, San Antonio, Saginaw, and Milwaukee. The community-based organizations in charge of providing the services were local Opportunities Industrial Centers (OIC) of America. Program directors at each of the five sites were given a list of disadvantaged eighth grade students from families receiving public assistance. From the lists, the program directors randomly selected 25 students to participate and 25 students to serve as controls. All the participants were highly disadvantaged, most were ethnic minorities (86%), and only 9 percent lived with both parents. On average the program cost \$10,600 per participant over the four year period.

Evaluation methodology

QOP is unique in that it was designed from the outset as a social experiment. In each of five project cities, 50 students were randomly selected from a list of families receiving public assistance. Half were placed into the control group and half into the participant group. The students who were selected for participation were encouraged to join the program, and no substitutions were made based on student interests or motivation.

At the beginning of the program in September 1989, the QOP and control group members took tests assessing their academic and functional skill levels. They were also asked to fill out a questionnaire that covered demographic characteristics, work experience, school experiences, health knowledge, and personal attitudes and opinions. Similar questionnaires were administered again in fall of 1990, 1991, and 1992. In spring of 1993, the students filled out a questionnaire focused on future plans, and in late fall of 1993, a post-high school questionnaire was administered. The skills tests were also administered periodically, in fall of 1990 and 1991 and in spring of 1993.

QOP has been evaluated several times. The evaluation included in this review focuses primarily on the postsecondary outcomes of the program (Hahn, Leavitt, & Aaron, 1994). The researchers analyzed data from the post-high school follow-up survey and compared outcomes for the participant and control groups. They also conducted a small benefit-cost analysis. One out of the five project sites (Milwaukee) was excluded from the analyses due to implementation infidelity and high sample attrition.

Evaluation findings

The Hahn et al. (1994) evaluation found the following:

- The effects of QOP increased over time. In comparison to previous data analyses of data gathered during the high school years, the analysis of data from the post-high school period showed much more significant differentiation between the experimental and control groups.

- There were large site differences in the QOP effect, which appeared to be related to the intensiveness of the site. The site with the best results, Philadelphia, was able to create a group identity among QOP members, offered a reliable menu of programs, and provided stable, consistent relationships between QOP youth and program staff. Philadelphia was also able to retain more members than the other sites, and the larger sample size may have helped achieve more statistically significant results.
- “Experimental group members are much more likely to have graduated from high school and to be in a postsecondary school. They are much less likely to be high school dropouts” (p. 8). These results are statistically significant.
- “QOP had some positive effect on educational goals and dropout rates in all four sites” (p. 9). The differences were most dramatic in Philadelphia, the site which corresponds most closely with the original QOP design (i.e., more intensive). Statistically significant differences between participants and controls in Philadelphia include graduation rate (76% versus 48%, $p \leq 0.10$), dropout rate (8% versus 44%), and postsecondary enrollment (72% versus 24%).
- There were statistically significant differences between the experimental and control groups in both four-year (18% versus 5%) and two-year (19% versus 9%) college attendance.
- QOP members were significantly less likely to have children (24%) than control group members (38%) ($p \leq 0.10$).
- “The proportion of QOP members receiving honors or awards was nearly three times higher than the proportion of control group members (34% versus 12%)” (p. 10). This is a statistically significant difference.
- There were statistically significant differences between the participant and control groups with regard to community services experiences, including taking part in a community project (21% versus 12%); volunteering as a tutor, counselor, or mentor (28% versus 8%); and giving time to a non-profit, charitable, school, or community group (41% versus 11%).
- A significantly larger percentage of the control group was neither in school nor working (50%) compared to the QOP group (30%).
- In comparison to the control group members, QOP members were significantly more likely to be hopeful about the future and to consider their life a success.

- The researchers attributed the success of QOP to several factors: the intelligent design of the demonstration, the caring staff, the early intervention, the “case management” and youth development approach, and the sustained relationships between youth and caring adults.
- Assuming that college students finish their education, the benefit-cost ratio for QOP is \$3.68 gained for every \$1 spent. Even with a conservative estimate – assuming that only one-third of the college students attain degrees and that the rest received benefits equal to high school graduates – the benefit-cost ratio for QOP is \$3.04 gained for every dollar spent.

Assessing the quality of evidence

This evaluation has the benefits of an experimental study design, with randomly assigned participant and control groups, eliminating problems associated with selection bias and allowing one to more confidently conclude that differences between the two groups are attributed to program impacts. The results are impressive: QOP had large, significant impacts on a wide variety of participant outcomes. More statistically significant results were found overall than for the individual sites, given small sample sizes, yet even when the differences were too small to be significant, they were still positive and substantial in most cases.

One potential concern regards sample attrition. Because four years had passed between the baseline data collection and the follow-up survey analyzed in this evaluation, interviewers were unable to reach some of the QOP members (12%) and control group members (18%). Such sample attrition has the potential to invalidate comparisons if those who left the sample were substantively and systematically different from those who stayed. Luckily, the researchers found that, where attrition had occurred, those who left the sample were *not* systematically different from those who stayed. The researchers have confidence in the results, having found no evidence of response bias.

Unlike most of the other evaluations included in this review, the researchers gave context to the results and provided their impressions of why the program achieved the results it did. The differences uncovered when results were disaggregated by site confirm an important implication: QOP achieved better results at sites where the program was more intensive. The costs of providing a more intensive program are obviously higher, but the cost-benefit analysis suggests the QOP program costs were well outweighed by the potential benefits accrued by program participants.

Sponsor-A-Scholar (SAS)

Program description

Sponsor-A-Scholar (SAS) is a college preparatory/college retention program that is administered by the nonprofit organization Philadelphia Futures. Since the program was launched in 1990, SAS has served over 800 students. In 1996, operational costs for the program were \$1,485 per student per year.

Originally, students from all Philadelphia public high schools were eligible for participation. However, the program chose to concentrate resources by selecting participants from 10 to 12 schools that demonstrated interest in the program. SAS targets low-income students of color with average grades (B's and C's) who demonstrate motivation. Students are nominated for participation by school staff in eighth or ninth grade. Upon acceptance to the program, students sign a Statement of Intent through which they affirm their commitment to maintain grades of C or higher, keep good attendance in school, keep appointments with their mentor, communicate regularly with their mentor and the program staff, attend program events, enroll in challenging courses, and ask for support when needed.

The design of the program is based on Eugene Lang's *I Have A Dream* model. Students are paired with volunteer adult mentors who meet with them monthly for five years, from ninth grade through the first year after high school, which is typically the student's first year of college. In addition to meeting monthly, mentors regularly check in with their mentees by telephone. The mentor's duties include being a good role model, introducing the student to social and cultural experiences, and developing a good relationship with the student and his/her family. In addition, the mentors help monitor the students' academic progress, participate in program activities, and help the student with financial aid and college applications. Mentors are supported by program staff (called "class coordinators") who facilitate the mentor-student relationship by checking in regularly and offering suggestions and advice. The class coordinators also document the students' progress over the course of their participation in the program.

In addition to providing mentors, program staff (called "academic support coordinators") arrange academic enrichment opportunities for the participants. Some of the academic services provided include tutoring, SAT preparation, study skills workshops, college visits, college selection assistance, and summer programs. Most of the services are delivered at school to individual participants or small groups of students. Upon graduating from high school, SAS participants receive a \$6,000 scholarship that is donated by the mentor or an outside sponsor.

Evaluation methodology

An external evaluation was conducted by Mathematica Policy Research, Inc. (Johnson, 1998). The evaluation used a longitudinal comparison group design. The sample included four cohorts of SAS participants: the graduating classes of 1994, 1995, 1996, and 1997. The evaluation included students who were SAS participants at the beginning of the evaluation period, in fall 1993, and excluded participants who left the program before the sample was drawn as well as those who joined after the sample was drawn. For each SAS participant included in the sample, two comparison group students were matched on race, gender, school attended, and overall ninth grade GPA. The researchers were unable to match students on income eligibility and motivation; however, the process of inviting comparison students to take the survey screened them on motivation to some extent because only the students who showed up to take the survey were included. In order to address issues of potential selection bias, several variables shown to be correlated with academic success were controlled for in the analysis. The final sample included 180 SAS participants and 254 comparison group students.

Students were surveyed each of the four evaluation years through a self-administered questionnaire for students who were still in school and through telephone surveys for students who had graduated. The survey gathered information on background characteristics, parental involvement in school-related issues, student involvement in activities and programs, sense of self-esteem, perceptions of peers, and plans and preparation for college. Those who had graduated from high school were asked about the college experience, current activities, and plans. Additional data sources included surveys of mentors, student transcript data, school administrative data, and qualitative information gathered from class coordinators' notebooks, interviews, and informal on-site observations.

The evaluation used regression and logistic regression analyses, controlling for socioeconomic characteristics of the student's family (parent's education, mother's employment, number of siblings, number of school transfers, single-parent household), demographic characteristics of the student (race and gender), student motivation (ninth grade attendance), and previous student academic performance (ninth grade GPA). The evaluation examined eight dependent variables: (1) tenth grade GPA, (2) 11th grade GPA, (3) 12th grade GPA, (4) the extent of participation in college preparation activities, (5) measured sense of self-esteem, (6) college attendance in the first year following high school graduation, (7) college attendance in the second year following high school graduation, and (8) the college retention rate between the first and second years of college.

Evaluation findings

The Mathematica evaluation (Johnson, 1998) found the following results:

- Sponsor-A-Scholar had a significant, positive impact on 10th and 11th grade academic performance ($p \leq 0.05$ and $p \leq 0.10$). However, the size of the impact was substantively modest, and the impact disappeared by the 12th grade.
- “Sponsor-A-Scholar has a positive and significant impact on the extent of student participation in college preparation activities, such as enrollment in an SAT prep course, collecting information on financial aid, or visiting a college” (p. ii).
- “Sponsor-A-Scholar does not have a significant impact on students’ measured self-esteem” (p. ii).
- Sponsor-A-Scholar had a positive and significant impact on college attendance during the first year (85% versus 64%) and second year (73% versus 56%, $p \leq 0.10$) after high school.
- For those students who attended college in their first year after high school, Sponsor-A-Scholar did not significantly affect retention between the first and second years of college.
- Students “who appear to benefit the most from program participation are those who have the fewest resources already at their disposal: students who come from families with the least amount of support, who attend some of the poorest performing schools, who have the lowest initial grade point averages, and who are the least motivated at the outset do significantly better across a number of the outcome measures than do students at the highest end of each of these characteristics” (p. ii).
- “Students with mentors who communicate more frequently with them and are better acquainted with their families do significantly better on a number of the outcome measures. Mentor characteristics, such as age, race, or location of home, do not appear to make a consistently significant difference in student performance” (p. ii-iii).

Assessing the quality of evidence

This is a very solid evaluation. The researchers used a high quality evaluation design (i.e., longitudinal comparison group) and controlled for selection bias the best that they could through a survey administration process that to some extent screened comparison students on motivation, as well as through the inclusion of several control variables in the regression and logistic regression analyses. In addition, the researchers disaggregated outcomes, providing valuable information on the characteristics of students who benefited most from the program.

The results strongly suggest that SAS has an impact on college enrollment; however, the program may not have as strong an impact on college success, given that SAS participants who enrolled in college were not significantly more likely to continue for a second year than comparison group students who enrolled in college.

Talent Search

Program description

The federal government created Talent Search in 1965 in order to assist students applying for federal financial aid for postsecondary education made available through the authorization of the *Higher Education Act of 1965*. In 1968, Talent Search and two other federal programs designed to increase educational opportunity and attainment – Upward Bound and Student Support Services – were grouped under one umbrella as TRIO programs. TRIO has since expanded to include four additional direct service programs and two design/administration programs, for a total of nine TRIO programs. In terms of the number of students served, Talent Search has consistently been the largest of the TRIO programs. In fiscal year 2005, 384,599 students were served in 468 Talent Search projects across the country. The average cost per participant in fiscal year 2005 was \$376 (U.S. Department of Education, 2006).

Talent Search targets students who have the academic potential to go to college but may need extra guidance in order to navigate the financial aid and college application processes (U.S. Department of Education, 2006). At least two-thirds of the participants in any given project must be low-income, potentially first-generation college students. In most projects, the percentage of students who meet at least one of these criteria is higher than required (Constantine, Seftor, Martin, Silva, & Myers, 2006). Students in grades 5-12 are eligible for participation, as well as high school dropouts up to age 27. Veterans of any age may participate if they meet the other eligibility requirements.

Talent Search projects are sponsored by institutions of higher education, public and private organizations and agencies, and in exceptional cases, by secondary schools. Organizations that wish to offer a Talent Search project compete for federal grants once every four years. Talent Search projects aim to address the informational barriers faced by low-income, first-generation students. The program is low-intensity, and the services provided are limited, with nearly half of participants receiving 10 or fewer hours of service per year (U.S. Department of Education, 2006). The specific services provided vary depending upon the project, but the most common types of service include academic support, career development, and financial aid assistance. When asked which services contributed most to achieving the project objectives, project directors most frequently

mentioned financial aid services and college campus visits (U.S. Department of Education, 2006).

Evaluation methodology

The most recent evaluation of the Talent Search program was conducted by Mathematica Policy Research, Inc. under contract for the U.S. Department of Education (Constantine, Seftor, Martin, Silva, & Myers, 2006). The evaluation examined the effect of Talent Search on postsecondary outcomes in three states: Florida, Indiana, and Texas. The Talent Search programs in these states were asked to provide administrative data on the cohort of participants who were ninth graders in 1995-96 and were served by Talent Search projects between 1993 and 2000.

Participants were matched with similar nonparticipating comparison students who had similar odds of participating in Talent Search based on their demographic, socioeconomic, and academic characteristics, as well as persistence through high school prior to program start. To minimize issues related to selection bias, the comparison group students were drawn from the same districts but not from the same high schools.

The effect of Talent Search on postsecondary outcomes was estimated using a regression-adjusted approach. Because the data provided and the strategy for drawing comparison groups differed for each state, findings that are consistent across all three states suggest greater robustness than findings for only one or two states.

Evaluation findings

The evaluation conducted by Mathematica Policy Research (Constantine et al., 2006) found the following results:

In comparison to non-participants, participants were:

- significantly more likely to be first-time applicants for financial aid in the 1999-2000 school year (17 percentage points higher in FL, 14 in IN, and 28 in TX)
- significantly more likely to enroll in a public college or university in their state by the 1999-2000 school year (14 percentage points higher in FL, 6 in IN, and 18 in TX)
- significantly more likely to enroll in two-year and four-year institutions (gains were larger and more statistically robust for two-year enrollment)
- more likely to graduate from high school (but the researchers were less confident in attributing this result to the program because there could be biases)

Assessing the quality of evidence

Given that positive results were found for all three states evaluated, these results provide good evidence that Talent Search is having an impact on college enrollment. However, the size of the program's impact may be much smaller than it appears in these results for two reasons. First, only about 60 percent of Talent Search programs provided data, and it is quite likely that these programs are among those with better outcomes, thus upwardly biasing the results. Second, unmeasurable student characteristics likely account for some portion of the observed impacts.

“The answer for all of our national problems, the answer for all the problems of the world, comes down, when you really analyze it, to one single word—education.”

President Lyndon B. Johnson

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