What Works Clearinghouse

ies INSTITUTE OF EDUCATION SCIENCES

Talent Search

Program description *Talent Search* aims to help low-income and first-generation college students (those whose parents do not have four-year college degrees) complete high school and gain access to college through a combination of services designed to improve academic achievement and increase access to financial aid. Services include test taking and study skills assistance, academic advising, tutoring, career development, college campus visits, and financial aid application assistance.

Research Two studies of *Talent Search* met What Works Clearinghouse (WWC) evidence standards with reservations—one conducted in Texas and another in Florida. Together, the studies included about 5,000 *Talent Search* participants, as well as a comparison sample of more than 70,000 students created through propensity score matching.[1]

Effectiveness *Talent Search* was found to have potentially positive effects on completing school.

	Staying in school	*Progressing in school*	*Completing school*
Rating of effectiveness	N/A	N/A	Potentially positive effects
Improvement index[2]	N/A	N/A	Average: +17 percentile points
			Range: +14 to +19 percentile points

1. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
2. These numbers show the average and range of improvement indices for all findings across the two studies.

Absence of conflict of interest

The *Talent Search* study summarized in this intervention report was prepared by staff of Mathematica Policy Research, Inc. (MPR). Because the principal investigator for the WWC dropout prevention review is also an MPR staff member, the study was rated by staff members from Caliber Associates, who also prepared the intervention report. The report was then reviewed by MPR staff members and by members of the WWC Technical Review Team and external peer reviewers.

Additional program information

Developer and contact

Talent Search is one of several federal programs established by and funded through the Higher Education Act of 1965. These programs—known as "TRIO programs" because there were originally three of them—are designed to promote college enrollment and completion among low-income students. More information about *Talent Search* can be found at http://www.ed.gov/programs/triotalent/index.html.

Scope of use

Currently, *Talent Search* serves about 380,000 students a year through more than 400 projects sponsored by institutions of higher education, public and private agencies or organizations, and some secondary schools.

Description of intervention

Talent Search aims to promote high school graduation and college enrollment through academic support, exposure to college campuses, and assistance with understanding and accessing financial aid. The program serves both middle and high school students. *Talent Search* projects must primarily serve students who are low income and whose parents did not complete a four-year college degree. Program services include career exploration and aptitude assessment, tutorial services, information on postsecondary education, exposure to college campuses, counseling, academic advising, information on financial aid, help with completing college admissions and financial aid applications, assistance in preparing for college entrance exams, mentoring programs, and workshops for participants' families. According to a 2000 survey of project directors, nearly half of *Talent Search* participants received 10 or fewer hours of services a year.

Cost

In fiscal year 2005, *Talent Search* received approximately $145 million in federal funding to serve 384,588 participants, for an average cost of $376 per participant. In some cases, local programs supplement this federal funding with other resources.[3]

Research

The WWC reviewed seven studies of the effectiveness of *Talent Search.* Three of these studies were included within one research report (Constantine, Seftor, Martin, Silva, & Myers, 2006). Among the three studies in this report, those conducted in Texas and Florida met WWC evidence standards with reservations. The third study included in the Constantine et al. (2006) study—conducted with data from Indiana—did not assess outcomes from any of the three relevant domains for dropout prevention (staying in school, progressing in school, and completing school). The remaining four *Talent Search* studies did not meet WWC evidence screens.

The Texas study involved 10 *Talent Search* projects (each serving 10–20 high schools) and 4,027 participants, who were matched to 30,842 nonparticipants from the same high schools based on propensity scoring methods that matched students on 18 demographic, socioeconomic, and academic characteristics. The Florida study involved five *Talent Search* projects (each serving 10–20 high schools) and

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3. For more detailed budgetary information on *Talent Search* since its inception in 1965, see U.S. Department of Education. (2002). A profile of federal TRIO programs: 2002. Washington, DC: U.S. Department of Education, Office of Postsecondary Education.

Research *(continued)*

900 participants, who were matched to 42,514 nonparticipants from the same high schools using propensity scoring methods that matched students on 13 demographic, socioeconomic, and academic characteristics.[4] For both the Texas and Florida samples, statistical tests found that treatment and comparison group samples were not statistically different at the 0.05 level on any of the demographic or academic measures used in the matching procedures. In both states, the study focused on participants who were ninth graders in the fall of the 1995–96 school year.

Effectiveness

Findings
The WWC review of interventions for dropout prevention addresses student outcomes in three domains: staying in school, progressing in school, and completing school.

Completing school. The Texas and Florida studies examined the program's effects on the likelihood that students received a high school diploma or General Educational Development (GED) certificate within five years of entering ninth grade. The Texas study indicated that *Talent Search* participants completed school at a significantly higher rate than comparison group students—86% compared with 77%. The Florida study indicated that *Talent Search* participants completed school at a significantly higher rate than comparison group students—84% compared with 70%. Neither study examined the separate effect of *Talent Search* on receipt of high school diplomas compared with attainment of GED certificates.

Rating of effectiveness
The WWC rates the effects of an intervention in a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings,[5] the size of the difference between participants in the intervention condition and the comparison condition, and the consistency in findings across studies (see the WWC Intervention Rating Scheme).

The WWC found *Talent Search* to have potentially positive effects on completing school

Improvement index
The WWC computes an improvement index for each individual finding. In addition, within each outcome domain, the WWC computes an average improvement index for each study and an average improvement index across studies (see Technical Details of WWC-Conducted Computations). The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analysis. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results. The average improvement index for completing school is +17 percentile points across the two studies, with a range of +14 to +19 percentile points across the findings.

Summary
The WWC reviewed seven studies of the effectiveness of *Talent Search.* Two of these studies met WWC standards with reservations; the others did not meet evidence or relevance standards.

4. Information on the number of high schools per project was obtained by the WWC from the study authors. In both the Florida and Texas analyses, weights were used to account for the closeness of the match (with closer matches receiving a larger weight) and to account for the fact that students in the *Talent Search* group could be matched to more than one comparison student.

5. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation, see the WWC Tutorial on Mismatch. See Technical Details of WWC-Conducted Computations for the formulas the WWC used to calculate the statistical significance. In the case of *Talent Search,* no corrections for clustering or multiple comparisons were needed.

Based on the results from the two qualifying studies, the WWC found potentially positive effects of *Talent Search* on completing school. Neither of these studies assessed the program's effectiveness on staying in school or progressing in school. The evidence presented in this report is limited and may change as new research emerges.

References

Met WWC evidence standards with reservations

Texas study included in:

Constantine, J. M., Seftor, N. S., Martin, E. S., Silva, T., & Myers, D. (2006). A study of the effect of the Talent Search program on secondary and postsecondary outcomes in Florida, Indiana, and Texas: Final report from phase II of the national evaluation. Report prepared by Mathematica Policy Research for the U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service. Washington, DC: U.S. Department of Education.

Florida study included in:

Constantine, J. M., Seftor, N. S., Martin, E. S., Silva, T., & Myers, D. (2006). A study of the effect of the Talent Search program on secondary and postsecondary outcomes in Florida, Indiana, and Texas: Final report from phase II of the national evaluation. Report prepared by Mathematica Policy Research for the U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service. Washington, DC: U.S. Department of Education.

Did not meet WWC evidence screens

Brewer, E. W., & Landers, J. M. (2005). A longitudinal study of the Talent Search program. *Journal of Career Development, 31,* 195–208.[6]

Indiana study included in:

Constantine, J. M., Seftor, N. S., Martin, E. S., Silva, T., & Myers, D. (2006). A study of the effect of the Talent Search program on secondary and postsecondary outcomes in Florida, Indiana, and Texas: Final report from phase II of the national evaluation. Report prepared by Mathematica Policy Research for the U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service. Washington, DC: U.S. Department of Education.[7]

Franklin, P. (1985). Helping disadvantaged youth and adults enter college: An assessment of two Federal programs. Washington, DC: College Entrance Examination Board.[7]

Green, C. M. (2003). An assessment of the influence of a Talent Search program on the academic and career goals of program participants. *Dissertation Abstracts International,* Wayne State University. (UMI No. 3086430).[7]

Simelton, V. E. (1994). An evaluation of the Educational Talent Search Program at the University of Arkansas at Little Rock. Unpublished doctoral dissertation, University of Arkansas.[7]

For more information about specific studies and WWC calculations, please see the WWC *Talent Search* Technical Appendices.

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6. The study does not use a strong causal design: the study used a nonequivalent comparison group.
7. The outcome measures examined are not relevant to this review.

Appendix

Appendix A1.1   Study characteristics: Constantine, Seftor, Martin, Silva, & Myers (2006)—Texas study (quasi-experimental design)

Characteristic	Description
Study citation	Constantine, J. M., Seftor, N. S., Martin, E. S., Silva, T., & Myers, D. (2006). A study of the effect of the Talent Search program on secondary and postsecondary outcomes in Florida, Indiana, and Texas: Final report from phase II of the national evaluation. Report prepared by Mathematica Policy Research for the U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service. Washington, DC: U.S. Department of Education.
Participants	The Texas study used a quasi-experimental research design. The sample included 4,027 students in the intervention group and 30,842 students in the comparison group. Propensity score modeling was used to match *Talent Search* students to comparison students who attended the same high schools and who were in the ninth grade in the 1995–96 school year. Matching was based on 18 demographic and academic characteristics, including students' eighth-grade test scores, race or ethnicity, socioeconomic status, English proficiency, special education status, and enrollment in vocational education programs. There were no statistically significant differences between the intervention group and the matched comparison group on the baseline characteristics used in the matching procedures. A *Talent Search* student could be matched to multiple comparison students. Weights were used to account for the closeness of the match—with closer matches receiving larger weights.[1] In addition, the comparison sample was weighted to equal the size of the treatment group so as not to overstate statistical significance. So, the intervention and comparison groups each had an effective sample size of about 4,000.

Compared with all Texas high school students, *Talent Search* participants were more likely to be female (62% compared with 47%), economically disadvantaged (51% compared with 38%), and black or Hispanic (73% compared with 53%). *Talent Search* students were less likely than other high school students in the state to be behind grade level (16% compared with 29%), to be receiving special education services (5% compared with 12%), or to score in the bottom quartile on standardized tests (22% compared with 27% for math and 20% compared with 27% for reading). |
Setting	The Texas study was conducted in 10 *Talent Search* projects (each including 10–20 high schools) and included participants who entered ninth grade in 1995–96.[2]
Intervention	Most participants received services in their junior and senior years of high school. Participants were either recruited to participate or volunteered to be in the program.
Comparison	Comparison group students did not participate in *Talent Search* and attended the same high schools as students in the intervention group.
Primary outcomes and measurement	One relevant outcome from the Texas study—high school completion rates—is included in this summary. This measure represents whether students earned a high school diploma or received a GED certificate. (See Appendix A2 for a more detailed description of this outcome measure.) The study also examined the program's effects on financial aid receipt and college enrollment. However, these outcomes do not fall within the three domains (staying in school, progressing in school, and completing school) examined by the WWC's review of dropout prevention interventions. Therefore, these additional outcomes are not included in this report.
Teacher training	No specific information concerning staff training was provided.

1. Additional information on how weights were constructed was obtained by the WWC from the study authors.
2. Information on the number of high schools per project was obtained by the WWC from the study authors.

Appendix A1.2 Study characteristics: Constantine, Seftor, Martin, Silva, & Myers (2006)—Florida study (quasi-experimental design)

Characteristic	Description
Study citation	Constantine, J. M., Seftor, N. S., Martin, E. S., Silva, T., & Myers, D. (2006). A study of the effect of the Talent Search program on secondary and postsecondary outcomes in Florida, Indiana, and Texas: Final report from phase II of the national evaluation. Report prepared by Mathematica Policy Research for the U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service. Washington, DC: U.S. Department of Education.
Participants	The Florida study used a quasi-experimental research design. The matched sample included 900 students in the intervention group and 42,514 students in the comparison group. Propensity score modeling was used to match *Talent Search* participants to similar students who attended the same high schools and who were in the ninth grade in 1995–96. Matching was based on 13 demographic and academic characteristics, including whether students were economically disadvantaged, learning disabled, overage for grade, emotionally or physically disabled, or enrolled in a gifted or talented program. Students were also matched on gender, race or ethnicity, primary language spoken at home, and citizenship status. Intervention and comparison students were not statistically different from each other at the 0.05 level on any measures used in the matching procedures. However, there were statistically significant differences at the 0.10 level on two measures—language spoken at home and whether participated in a dropout prevention program. These differences were controlled for in regression models used to estimate program impacts. Weights were used to account for the closeness of the match, with closer matches receiving larger weights. In addition, the comparison sample was weighted to equal the size of the treatment group so as not to overstate statistical significance. So, the intervention and comparison groups each had an effective sample size of 900.

Compared with all Florida high school students, participants in *Talent Search* were more likely to be black (46% compared with 25%) and economically disadvantaged (63% compared with 37%). They were less likely to be learning disabled (4% compared with 8%), overage for grade (10% compared with 26%), or male (34% compared with 53%). They were also less likely to be Hispanic (5% compared with 16%) or to speak a language other than English at home (3% compared with 14%). |
Setting	The Florida study was conducted in five *Talent Search* projects throughout the state, each including 10–20 high schools.[1] Participants included students who entered ninth grade in 1995–96.
Intervention	Most participants received services in their junior and senior years of high school. School and *Talent Search* staff recruited participants to participate.
Comparison	Comparison group students did not participate in *Talent Search* and attended the same high schools as students in the intervention group.
Primary outcomes and measurement	One relevant outcome from the Florida study—high school completion—is included in this summary. This measure represents whether sample members earned a high school diploma or received a GED certificate. (See Appendix A2 for a more detailed description of this outcome measure.) The study also examined the program's effects on financial aid receipt and college enrollment. However, these outcomes do not fall within the three domains (staying in school, progressing in school, and completing school) examined by the WWC's review of dropout prevention interventions. Therefore, these results are not included in this report.
Teacher training	No specific information concerning staff training was provided.

1. Information on the number of high schools per project was obtained by the WWC from the study authors.

Appendix A2   Outcome measures in the completing school domain

Characteristic	Description
Earned a high school diploma or GED	The percentage of students who received their diploma or GED by the end of their fifth academic year after entering the ninth grade. In both Texas and Florida, this information comes from a statewide database that tracked public high school enrollment and completion and GED receipt. The measure includes only diplomas earned from public high schools within the state and GED certificates earned within the state. Diplomas from private high schools and credentials earned outside the state are not included.

Appendix A3   Summary of study findings included in the rating for the completing school domain[1]

Outcome measure	Study sample	Sample size[2]	Mean outcome		Mean difference[3] (*Talent Search* – comparison)	Effect size[4]	Statistical significance[5] (at $\alpha = 0.05$)	Improvement index[6]
			Talent Search group	Comparison group				
Constantine et al., 2006—Texas study (quasi-experimental design)[7]								
Earned a high school diploma or GED	High school students	8,054	86%	77%	9%	0.37	Statistically significant	+14
Average[8] for completing school (Constantine et al., 2006—Texas study)						0.37	Statistically significant	+14
Constantine et al., 2006—Florida study (quasi-experimental design)[7]								
Earned a high school diploma or GED	High school students	1,800	84%	70%	14%	0.49	Statistically significant	+19
Average[8] for completing school (Constantine et al., 2006—Florida study)						0.49	Statistically significant	+19
Domain average[8] for completing school across all studies						0.43	na	+17

na = not applicable

1. This appendix reports findings considered for the effectiveness rating and the improvement index.
2. This column represents the effective sample size after weighting. *Talent Search* students could be matched to multiple comparison students. Weights were used in the analysis that made the effective sample size for the comparison group equal to the *Talent Search* group.
3. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
4. Effect sizes were calculated using the Cox index for dichotomous outcomes. For an explanation of the effect size calculation, see Technical Details of WWC-Conducted Computations.
5. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups.
6. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between −50 and +50, with positive numbers denoting favorable results.
7. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation about the clustering correction, see the WWC Tutorial on Mismatch. See Technical Details of WWC-Conducted Computations for the formulas the WWC used to calculate statistical significance. In the case of Constantine et al. (2006), no corrections for clustering or multiple comparisons were needed.
8. The WWC-computed average effect sizes for each study and for the domain across studies are simple averages rounded to two decimal places. The average improvement indices are calculated from the average effect sizes.

Appendix A4   *Talent Search* rating for the completing school domain

The WWC rates an intervention's effects for a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative.[1]

For the outcome domain of completing school, the WWC rated *Talent Search* as having potentially positive effects. It did not meet the criteria for positive effects because both *Talent Search* studies involved quasi-experimental designs. The remaining ratings (mixed effects, no discernible effects, potentially negative effects, and negative effects) were not considered because *Talent Search* was assigned the highest applicable rating.

Rating received

Potentially positive effects: Evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect.

   Met. The WWC analysis found two studies of *Talent Search* that demonstrated statistically significant positive effects in the completing school domain.

- Criterion 2: No studies showing a statistically significant or substantively important *negative* effect and fewer or the same number of studies showing *indeterminate* effects than showing statistically significant or substantively important *positive* effects.

   Met. No studies of *Talent Search* found statistically significant or substantively important negative effects in the completing school domain.

Other ratings considered

Positive effects: Strong evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *positive* effects, at least one of which met WWC evidence standards for a strong design.

   Not met. No studies of *Talent Search* met WWC evidence standards for a strong design.

- Criterion 2: No studies showing statistically significant or substantively important *negative* effects.

   Met. The WWC analysis found no statistically significant or substantively important negative effects in the completing school domain.

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1. For rating purposes, the WWC considers the statistical significance of individual outcomes and the domain level effects. The WWC also considers the size of the domain level effects for ratings of potentially positive or potentially negative effects. See the WWC Intervention Rating Scheme for a complete description.