

What Works Clearinghouse



Middle College High School

Program Description²

Middle College High Schools are alternative high schools located on college campuses that aim to help at-risk students complete high school and encourage them to attend college. The four-year program offers a project-centered, interdisciplinary curriculum with an emphasis on team teaching, individualized attention, and the development of critical thinking skills. Students are also offered support services, including specialized counseling, peer

support, and career experience opportunities. In recent years, some *Middle College High Schools* have converted to the *Early College High School* model, which offers students a five-year, accelerated course of study during which they can earn an associate degree or two years of college credits, in addition to a high school diploma. This review focuses only on the four-year *Middle College High School* model.

Research

One study of *Middle College High School* meets What Works Clearinghouse (WWC) evidence standards. This randomized controlled trial included 394 students in the Seattle Public Schools who were assigned to either an intervention group that was offered admission to the alternative high school or a control group that was not offered admission. Control group students were free to participate in other regular and alternative high schools operated by the school district, as well as General

Educational Development (GED) programs. Most control group students participated in one of these other education options.³

Based on this study, the WWC considers the extent of evidence for *Middle College High School* to be small for both the staying in school and the completing school domains. No studies that meet WWC evidence standards with or without reservations examined the effectiveness of *Middle College High School* in the progressing in school domain.

Effectiveness

Middle College High School was found to have no discernible effects on staying in school or completing school.

	Staying in school	Progressing in school	Completing school
Rating of effectiveness	No discernible effects	na	No discernible effects
Improvement index ⁴	Average: -3 percentile points	na	Average: +2 percentile points

na = not applicable

1. This report has been updated to include reviews of nine studies that were not included in the earlier review of *Middle College High School*. Of the additional studies, eight were not within the scope of the protocol, and one was within the scope of the protocol but did not meet evidence standards. A complete list and disposition of all studies reviewed is provided in the references.
2. The descriptive information for this program was obtained from a publicly-available source: the program's website (<http://www.mcnc.us>, downloaded December 2008). The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review.
3. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
4. These numbers show the average of student-level improvement indices for all findings across the study.

Absence of conflict of interest

The *Middle College High School* 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 an MPR staff member as well as a study author, the study was rated by staff members from ICF International.

Additional program information

Developer and contact

Information on the history of the *Middle College High School* model and current resources for program implementation are available from the Middle College National Consortium (MCNC). Address: Ted Killmer, Director of Communications, Middle College National Consortium, 47-09 30th Street, Suite 600, Long Island City, NY 11101. Email: tkillmer@mcnc.us. Web: <http://www.mcnc.us>. Telephone: (718) 361-1981.

Scope of use

The MCNC reports that, as of September 2008, the *Middle College High School* program was operating in 29 school districts in 12 states.

Description of intervention

Middle College High Schools are alternative high schools that operate as formal collaborations between local school districts and colleges. The schools, which offer regular high school diplomas, are small—with fewer than 100 students per grade—and are located on college campuses. Faculty and students have access to the college's educational resources and facilities, and students can take college-level courses. Since 2002, some *Middle College High Schools* have converted to the *Early College High School* model, which offers students a five-year, accelerated course of study during which they can earn an associate

degree or two years of college credits at no cost, in addition to a high school diploma. This review focuses only on the four-year *Middle College High School* model.

The *Middle College High School* curriculum emphasizes development of critical thinking skills and connecting what is learned to real-world experiences. These schools typically offer career-oriented courses and internships. In addition, students often must complete a community service requirement to graduate. Classes are taught by high school teachers from the local school district. Faculty teach collaboratively and integrate material across disciplines. Within team-taught classes, students often participate in collaborative learning groups. Student-to-staff ratios are substantially lower than in traditional high school programs, allowing for more individualized attention. *Middle College High Schools* often use alternative assessment strategies, such as portfolios and oral presentations. They emphasize democratic school governance and use school committees—including administrators, faculty, parents, students, and college and community representatives—to provide input and guidance on school operations.

Cost⁵

Researchers estimated the cost of *Middle College High School* in Seattle to be \$1,093 a student per month of program participation—about 50% higher than the cost of educating a student in a regular school within the district (estimated to be \$734 a month).

Research

Fifteen studies reviewed by the WWC investigated the effects of *Middle College High School*. One study (Dynarski et al., 1998) is a randomized controlled trial that meets WWC evidence standards. The remaining 14 studies do not meet either WWC evidence standards or eligibility screens.

The Dynarski et al. (1998) study of *Middle College High School* was part of a larger evaluation examining the effectiveness of 16

middle school and high school dropout prevention programs. The *Middle College High School* study used a random assignment design and included 394 students who applied to attend the alternative high school, which was operated by Seattle Public Schools in cooperation with Seattle Central Community College. Study participants were generally older students—their average age was just under 18—who were over-age for grade or had

5. See Rosenberg, L., & Hershey, A. (1995). *The cost of dropout prevention programs*. Princeton, NJ: Mathematica Policy Research, Inc. Costs have been converted to 2008 dollars using the Consumer Price Index.

Research *(continued)*

dropped out of school. Students assigned to the control group did not receive *Middle College High School* services; however, they were free to participate in other regular and alternative education programs in the community. Most of them participated in one of these other education options. Findings presented in this report were drawn from a follow-up survey administered about two years after random assignment.⁶

Extent of evidence

The WWC categorizes the extent of evidence in each domain as small or medium to large (see the What Works Clearinghouse

Extent of Evidence Categorization Scheme). The extent of evidence takes into account the number of studies and the total sample size across the studies that meet WWC evidence standards with or without reservations.⁷

The WWC considers the extent of evidence for *Middle College High School* to be small for both staying in school and completing school. No studies that meet WWC evidence standards with or without reservations examined the effectiveness of *Middle College High School* in the progressing in school domain.

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. The Dynarski et al. (1998) study included in this report covers two domains: staying in school and completing school. The findings below present the authors' estimates and WWC-calculated estimates of the size and the statistical significance of the effects of *Middle College High School* on students.⁸

Staying in School. Dynarski et al. (1998) reported that by the end of the second year after random assignment, 36% of students in the *Middle College High School* group had dropped out of school, compared with 33% of control group students—a difference that was not statistically significant. In addition, this difference was not large enough to be considered substantively important based on WWC standards (that is, an effect size of at least 0.25).

Completing School. Dynarski et al. (1998) found that 40% of students in the *Middle College High School* group had earned a high school diploma or GED certificate two years after random assignment, compared with 38% of control group students—a difference that was not statistically significant or substantively important.⁹

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, the size of the difference between participants in the intervention and the comparison conditions, and the consistency in findings across studies (see the WWC Intervention Rating Scheme).

6. An additional follow-up survey was conducted at the end of year three with an early cohort of study participants. Because of relatively low response rates to this survey, as well as evidence of substantial intervention-control differences in baseline characteristics among respondents, these third-year results were not used in the WWC rating of the effectiveness of *Middle College High School*. These results are summarized in Appendices A4.2 and A4.3.
7. The extent of evidence categorization was developed to tell readers how much evidence was used to determine the intervention rating, focusing on the number and size of studies. Additional factors associated with a related concept—external validity, such as the students' demographics and the types of settings in which studies took place—are not taken into account for the categorization. Information about how the extent of evidence rating was determined for *Middle College High School* is in Appendix A6.
8. 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. For the formulas the WWC used to calculate the statistical significance, see Technical Details of WWC-Conducted Computations. For the *Middle College High School* study summarized here, no corrections for clustering or multiple comparisons were needed.
9. In addition, analysis of third-year survey data, available for an early cohort, indicates no statistically significant effect of the intervention on completing school after three years. However, these longer-term results suggest that *Middle College High School* may have shifted these completions toward receipt of regular high school diplomas and away from receipt of GED certificates. Appendix A4.3 presents these longer-term results.

The WWC found *Middle College High School* to have no discernible effects on either staying in school or 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 based entirely on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analyses. The improvement index can take on values between -50 and +50, with positive numbers denoting results favorable to the intervention group.

References

Meets WWC evidence standards

Dynarski, M., Gleason, P., Rangarajan, A., & Wood, R. (1998). *Impacts of dropout prevention programs: Final report. A research report from the School Dropout Demonstration Assistance Program evaluation*. Princeton, NJ: Mathematica Policy Research, Inc.

Additional sources:

Dynarski, M., & Gleason, P. (1998). *How can we help? What we have learned from evaluations of federal dropout-prevention programs*. Princeton, NJ: Mathematica Policy Research, Inc.

Hershey, A., Adelman, N., & Murray, S. (1995). *Helping kids succeed: Implementation of the School Dropout Demonstration Assistance Program*. Princeton, NJ: Mathematica Policy Research, Inc.

Rosenberg, L., & Hershey, A. (1995). *The cost of dropout prevention programs*. Princeton, NJ: Mathematica Policy Research, Inc.

The average improvement index was -3 percentile points for staying in school and +2 percentile points for completing school in the one study that passed WWC evidence screens.

Summary

The WWC reviewed 15 studies on *Middle College High School*. One of these studies meets WWC evidence standards; the remaining 14 studies do not meet either WWC evidence standards or eligibility screens. Based on this one study, the WWC found the intervention to have no discernible effects on staying in school or completing school. The conclusions presented in this report may change as new research emerges.

Studies that fall outside the Dropout Prevention protocol or do not meet WWC evidence standards

Bruce, L. M. (2007). *Perceptions, motivations, and achievement of African American students enrolled in a Middle College High School*. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill, Chapel Hill, NC. The study is ineligible for review because it does not use a comparison group.

Byers, S. M. (1991). *What strategies/factors contribute to the educational success of former dropout high school students: Middle College High School, Seattle school district*. Seattle, WA: Puget Sound Educational Consortium. The study is ineligible for review because it does not use a comparison group.

California Community Colleges, Sacramento. Office of the Chancellor. (1993). *The California Middle College High School program*. Sacramento, CA: EDRS. The study is ineligible for review because it does not use a comparison group.

Carter, H. M. (2004). *A case study of Middle College High School, 1972-2003: An effort to improve the persistence of at-risk students in high school and to facilitate their access to college*. (Doctoral dissertation, New York University, New York, NY). *Dissertation Abstracts International*, 65(03A), 188-846. The study is ineligible for review because it does not use a comparison group.

References *(continued)*

- Cavalluzzo, L., Jordan, W., & Corallo, C. (2002). *Case studies of high schools on college campuses: An alternative to the traditional high school program*. Charleston, WV: AEL. The study is ineligible for review because it does not use a comparison group.
- Cullen, C. L. (1991). *Middle College High School: Its organization and effectiveness*. *Dissertation Abstracts International*, 52(02A), 172–358. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.
- Heard, F. B. (1988). *An assessment of the Tennessee statewide school–college collaborative for educational excellence: The Middle College High School*. Unpublished doctoral dissertation, Nova University, Ft. Lauderdale, FL. (ERIC Document Reproduction Service No. ED294637). The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.
- Jordan, W., Cavalluzzo, L., & Corallo, C. (2006). Community college and high school reform: Lessons from five case studies. *Community College Journal of Research & Practice*, 30(9), 729–749. The study is ineligible for review because it does not use a comparison group.
- Kong, D. T. (2002). *Improving academic success in tenth grade students at Middle College High School at Santa Ana College*. Unpublished master's thesis, California State University, Long Beach, Long Beach, CA. The study is ineligible for review because it does not use a comparison group.
- Lieberman, J. E. (1986). *Middle College: A ten year study*. New York, NY: City University of New York, La Guardia Community College. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.
- Lieberman, J. E. (1992). *A final report to the Ford Foundation on Middle College replication*. New York, NY: Ford Foundation. The study is ineligible for review because it does not include an outcome within a domain specified in the protocol.
- Meuschke, D. M., Dixon, P. S., & Gribbons, B. C. (2002). *Academy of the Canyons report, Fall 2000–Spring 2002*. Santa Clarita, CA: Office of Institutional Development. The study is ineligible for review because it does not include an outcome within a domain specified in the protocol.
- Michael, C. M. (2003). *The relationship of the transformational leadership of the administrators in America's Middle College High Schools and their feeder institutions to selected indicators of effectiveness*. Unpublished doctoral dissertation, Marshall University, Huntington, WV. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.
- Smoot, J. M. (2005). *Middle College High School programs in California as perceived by students and as compared for academic achievement with continuation high school programs*. Unpublished doctoral dissertation, Azusa Pacific University, Azusa, CA. The study is ineligible for review because it does not include an outcome within a domain specified in the protocol.