

# REVIEW PROTOCOL FOR PREVENTING DROPOUT IN SECONDARY SCHOOLS PRACTICE GUIDE VERSION 3.0

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This protocol guides the review of research that informs the recommendations contained in the What Works Clearinghouse (WWC) practice guide “Preventing Dropout in Secondary Schools”, published in September 2017. This review-specific protocol is used in conjunction with the [WWC Procedures and Standards Handbook \(version 3.0\)](#).

## PURPOSE STATEMENT

This practice guide focuses on dropout prevention practices designed for use in schools and school-affiliated programs. The guide will focus on students currently enrolled in secondary school who are at risk for dropping out of school and on secondary schools with many at-risk students. The primary focus will be on practices that address staying in school, progressing in school, and completing school.

The following research questions guide this review:

- Which dropout prevention strategies and practices are effective in keeping at-risk students in school?
- Which dropout prevention strategies and practices are effective in helping at-risk students progress in school?
- Which dropout prevention strategies and practices are effective in helping at-risk students graduate from high school?

## KEY DEFINITIONS

***Dropout prevention practices.*** Dropout prevention practices aim to keep students in school, help students progress in school, and ultimately improve their likelihood of completing high school. The practices can target middle school or high school students who are perceived to be at risk for dropping out, or entire schools where a large portion of the school population is at risk for dropping out. The goals of the practices might be to keep students in school, keep them on track to complete high school, or encourage them to complete their current level of schooling.

***Students at risk for dropping out.*** Students who exhibit behaviors that increase the likelihood of dropping out, such as poor attendance, misbehavior, or failing grades.

## PROCEDURES FOR CONDUCTING THE LITERATURE SEARCH

The [WWC Procedures and Standards Handbook](#) discusses the procedures for conducting a literature search in Section II: Developing the Review Protocol and Identifying Relevant Literature (p. 4) and in Appendix B: Policies for Searching and Prioritizing Studies for Review.

### Search Terms

The following table presents the search terms by category.

Category	Search Terms
Study Design	<ul style="list-style-type: none"> <li>• ABAB design</li> <li>• Alternating treatment*</li> <li>• Assign*</li> <li>• Baseline</li> <li>• Causal*</li> <li>• Changing criterion</li> <li>• Comparison group*</li> <li>• Control group*</li> <li>• Evaluat*</li> <li>• Experiment*</li> <li>• QED</li> <li>• Quasiexperiment*</li> <li>• Quasi-experiment*</li> <li>• Intrasubject replication</li> <li>• Matched group*</li> <li>• Multielement</li> <li>• Multi-element</li> <li>• Pretest*</li> <li>• Pre-test*</li> <li>• Pre test*</li> <li>• Posttest*</li> <li>• Post-test*</li> <li>• Post test*</li> <li>• Random*</li> <li>• RCT</li> <li>• RDD</li> <li>• Regression discontinuity</li> <li>• Reversal design*</li> <li>• Single case</li> <li>• Single subject</li> <li>• Simultaneous treatment*</li> <li>• Withdrawal design*</li> </ul>
Topic	<ul style="list-style-type: none"> <li>• Complet* school</li> <li>• School completion</li> <li>• Completion rate*</li> <li>• Continu* enroll*</li> <li>• Credit accumulat*</li> <li>• Credit recovery</li> <li>• Dropout*</li> <li>• Dropping out</li> <li>• Earn* high school diploma</li> <li>• Graduat* high school</li> <li>• Highest grade complet*</li> <li>• On track to graduate</li> <li>• Promot*</li> <li>• Progress* in school</li> <li>• School persistence</li> <li>• Student persistence</li> <li>• School retention</li> <li>• Student retention</li> <li>• School withdrawal</li> <li>• Student withdrawal</li> </ul>
Intervention	<ul style="list-style-type: none"> <li>• Approach*</li> <li>• Curricul*</li> <li>• Program*</li> <li>• Strateg*</li> </ul>

	<ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Instruct*</li> <li>• Intervene*</li> <li>• Model</li> <li>• Pilot</li> <li>• Practice*</li> </ul>	<ul style="list-style-type: none"> <li>• Teaching</li> <li>• Train*</li> <li>• Treatment*</li> <li>• Technique*</li> <li>• Support</li> </ul>
Population	<ul style="list-style-type: none"> <li>• Middle school*</li> <li>• Middle grade*</li> <li>• High school*</li> <li>• Secondary school*</li> <li>• Junior High</li> <li>• Sixth grade*</li> <li>• Grade six</li> <li>• 6th grade*</li> <li>• Grade 6</li> <li>• Seventh grade*</li> <li>• Grade seven</li> <li>• 7th grade*</li> <li>• Grade 7</li> <li>• Eighth grade*</li> <li>• Grade eight</li> <li>• 8th grade*</li> <li>• Grade 8</li> </ul>	<ul style="list-style-type: none"> <li>• Ninth grade*</li> <li>• Grade nine</li> <li>• 9th grade*</li> <li>• Grade 9</li> <li>• Tenth grade*</li> <li>• Grade ten</li> <li>• 10th grade*</li> <li>• Grade 10</li> <li>• Eleventh grade*</li> <li>• Grade eleven</li> <li>• 11th grade*</li> <li>• Grade 11</li> <li>• Twelfth grade*</li> <li>• Grade twelve</li> <li>• 12th grade*</li> <li>• Grade 12</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Benefit*</li> <li>• Effect*</li> <li>• Efficac*</li> <li>• Increase*</li> </ul>	<ul style="list-style-type: none"> <li>• Impact*</li> <li>• Improv*</li> <li>• Outcome*</li> </ul>

The asterisk (\*) in a search term means that any word that begins with the specified letters is considered to be the search term (e.g., “dropout” and “dropouts” are both search terms for dropout\*).

### Additional Sources

The websites listed in the [WWC Procedures and Standards Handbook](#), Appendix B will also be searched.

In addition to those databases listed in the [WWC Procedures and Standards Handbook](#), Appendix B, this review will search the EJS E-Journals electronic database.

The review team will search the WWC database of previously reviewed studies in the dropout area to identify studies that have met standards in prior reviews. Those studies will be re-

reviewed using the eligibility criteria and evidence standards described in this protocol. The team will also identify studies that have been rated as ineligible in prior dropout reviews and will confirm that they are ineligible for this review based on the criteria described in this protocol.

The review team will also solicit study recommendations of publicly available studies from panel members.

## **ELIGIBILITY CRITERIA**

### **Eligible Populations**

In this guide, the following populations are of interest:

- **Grade range.** The practice guide will review studies of interventions administered to students in secondary schools in grades 6–12, or in any subset of these grades. Studies that contain students in other grades or of other ages will not be included unless (a) the study reports disaggregated results for students in eligible grades, or (b) students in eligible grades represent the majority of the aggregated mixed-age sample. If the study does not report the number of students in each grade, a study will be included if 50% or more of the grades included in the sample falls within the eligible grade range and students in those grades are in secondary schools.
- **Location.** Students must attend a school in the United States, its territories or tribal entities, or in Canada.

Subgroups of interest for this review include:

- Racial or ethnic subgroups, including Black and Hispanic youth.
- Youth from economically disadvantaged families.
- Youth with identified disabilities, youth receiving remedial instruction, or other youth who may be receiving extra assistance but who do not have an identified disability.
- Youth who have limited English proficiency.
- Pregnant youth or youth who have children.
- Youth in foster care.
- Homeless youth.
- Justice-involved youth.

### **Eligible Interventions**

In this practice guide, the following types of interventions will be prioritized:

- **Practices or strategies.** A practice is a named approach to promoting students' development that educators implement by interacting with students and materials

in classrooms. The guide will include named practices that are clearly described, commonly understood, and used in published works by more than one investigator or team of investigators. Several terms may be used in the literature to refer to the same practice. A named practice may also refer to an array of specific procedures.

Both “branded” and “non-branded” interventions will be reviewed.

The guide will focus on practices implemented on their own or as part of a program, curriculum, or policy. Because the practice guide is aimed at providing strategies for educators and administrators, studies of state- or district-level policies, such as charter school authorization or small schools, are excluded. However, practices that are implemented in schools created by such policies are eligible.

Practices must be aimed at students currently enrolled in school and must have a stated focus on dropout prevention, progress in school, or high school completion. Practices whose primary purpose is to affect behaviors that are correlated with staying in school, progressing in school, or completing school – such as violent behavior, drug use, or teen pregnancy – will not be included. If it is unclear whether the practice is aimed at dropout prevention or high school completion, the practice will be eligible if the study examines outcomes in relevant domains.

Only practices that are replicable (i.e., can be reproduced) and can be implemented by an educator in a secondary school or a practitioner in a school-affiliated program are eligible for review. The following information about the intervention and implementation must be known to reliably replicate the intervention with different participants, in other settings, and at other times:

- Intervention description: skills being targeted, approach to enhancing the skill(s) (e.g., strategies, activities, and materials), unit of delivery of the intervention (e.g., whole group, individual), and medium/media of delivery (e.g., teacher-led instruction or software)
- Intervention duration and intensity
- Description of individuals delivering or administering the intervention
- Targeted population
- Setting in which the intervention is implemented

These final two criteria reflect the fact that dropout prevention programs can target a range of students and be implemented in a range of settings. Information about the types of students and institutions is needed to replicate the program appropriately.

The intervention must be implemented in a school or through an afterschool or community-based program. If implemented outside of school, the program must be affiliated with a school or district and have a stated focus on helping students stay in, progress in, or complete school.

### Eligible Research

The [WWC Procedures and Standards Handbook](#) discusses the types of research reviewed by the WWC in Section II: Developing the Review Protocol and Identifying Relevant Literature (p. 4). Additionally, in this review, the following parameters define the scope of research studies to be included:

- **Time frame.** The study must have been published between 1987 and January 2016; earlier or later work will be reviewed if suggested by a panelist.
- **Language.** The study must be available in English to be included in the review. Studies of interventions delivered in languages other than English will be included in the review.
- **Publication.** Dissertations are ineligible, unless specifically requested by a panelist.

### Eligible Outcomes

The practice guide is primarily focused on practices designed to help students stay in school, progress in school, and complete school. To be eligible, studies must include outcomes from at least one of the following three outcome domains:

- **Staying in school** includes outcomes that measure whether the student has dropped out of school and the number of days the student was enrolled in school.
- **Progressing in school** includes outcomes that assess the number of high school course credits the student has earned, whether the student was promoted to the next grade, and the highest grade the student has completed. It also includes on-track indicators, which are based on multiple indicators of student progress (for example, credit accumulation and course failures).
- **Graduating school** includes outcomes that measure whether the student has graduated from high school with a diploma.

If studies have eligible outcomes focused on staying in school, progressing in school, or graduating school, reviews will also document outcomes reported in the following domains:

- **Completing school** includes outcomes that measure completion of high school with a GED certificate. This domain also includes measures that combine completion with a GED and graduation with high school diploma into an aggregate measure of completion. Reviews will only document GED-only outcomes if the study also reports an outcome in the graduating school domain. Reviews will document outcomes that combine GED completion and graduation with a high school diploma if the study also reports an outcome in the staying in school or progressing in school domain.
- **Postsecondary access and enrollment** refers to the process of applying to, enrolling in, and attending a postsecondary institution. This includes actual enrollment in college, number and/or selectivity of admitted and/or enrolling institutions, enrollment by institution type (2 year or 4 year), intensity of enrollment (full time or part time), and timing of enrollment (immediate or delayed enrollment after high school).
- **Postsecondary credit accumulation** and persistence refers to progress toward the completion of a degree, certificate, or program. This includes number of college-level credits earned, number of terms of continuous enrollment, and enrolled versus did not enroll the next semester. The number of non-college level credits earned is not eligible.
- **Postsecondary attainment** refers to the completion of a degree, certificate, or program.
- **Labor market** refers to outcomes related to employment after high school completion. This includes employment, intensity of employment (full time or part time), and income earned.

Measures need to be defined in the same way for all study participants (including dropouts). The study should examine outcomes for all students, not only those who have remained in school.

## EVIDENCE STANDARDS

Eligible studies are assessed against WWC evidence standards, as described in the [WWC Procedures and Standards Handbook](#) Section III: Screening and Reviewing Studies (pp. 7–21).

### Sample Attrition

The [WWC Procedures and Standards Handbook](#) discusses the sample attrition standards used by the WWC in Section III: Subsection B.2 Sample Attrition: Is the combination of overall and differential attrition high? (pp. 11–15).

This review uses the **conservative** boundary for attrition. This boundary was based on the assumption that in studies of dropout prevention interventions, attrition may be strongly linked with the intervention and with dropping out.

## Baseline Equivalence

If the study design is a randomized controlled trial or regression discontinuity design with high levels of attrition or a quasi-experimental design, the study must demonstrate baseline equivalence of the intervention and comparison groups for the analytic sample. The onus for demonstrating equivalence in these studies rests with the authors. The [WWC Procedures and Standards Handbook](#) discusses how authors must demonstrate baseline equivalence in Section III: Subsection B.3 Baseline equivalence: Is equivalence established at baseline for the groups in the analytic sample? (pp. 15 and 16).

Studies for which the unit of analysis is the student must show that groups are equivalent in terms of race/ethnicity and sex. Additionally, they must demonstrate equivalence of the analytic groups on at least one measure of degree of disadvantage including:

- **Free and reduced-price lunch status**, poverty status, family income
- Being from a single-parent family
- Parent's education
- Immigrant or **English learner** status
- **Special education or disability status**
- Teen parent status

Finally, these studies must demonstrate equivalence of the analytic groups in at least one measure of academic performance or engagement. These measures include:

- **Standardized test scores in any subject**
- Whether behind in grade level (could be measured by age among students in the same grade)
- Frequency of behavior or discipline incidents in school
- Rate of school attendance
- GPA

The requirement that baseline equivalence must be demonstrated on each of the four characteristics is based on evidence that shows that disadvantage, academic achievement, gender, and race/ethnicity independently predict dropping out of high school (Allensworth & Easton, 2005; Balfanz, Herzog, & Mac Iver, 2007; Bowers, Spratt, & Taff, 2013; Rumberger, 2011).

Studies must establish equivalence for only one measure of disadvantage or academic achievement (or one of each for studies with student-level analysis), but reviews will also assess equivalence for all measures of disadvantage and academic performance listed above that are presented in the study. If there are baseline differences greater than 0.25 SD for any of these measures, then the entire study is rated *Does Not Meet WWC Group Design Standards*. However, this review protocol does not require a statistical adjustment for every baseline measure that has baseline differences between 0.05 and 0.25 SD (i.e., the adjustment range) because adjusting the analysis for two or more related baseline measures is unlikely to substantially change the findings compared to adjusting for only one (for this review, individual measures of disadvantage and academic achievement are unlikely to have strong relationships with the eligible outcomes). Specifically, when a study reports multiple baseline measures in the same category (disadvantage or academic achievement) and none have baseline differences larger than 0.25 SD, if at least one has baseline differences smaller than 0.05 SD, then the study does not need to adjust for any baseline measures in the category. If all baseline measures in a category have differences in the adjustment range, then the analysis must include an adjustment for at least one measure in the category.

Studies for which the unit of analysis is the school must show that the groups are equivalent in terms of outcome(s) measured at baseline. Additionally, they must demonstrate equivalence in race/ethnicity and at least one measure of degree of disadvantage or academic performance/engagement denoted above in **bold** text.

When the unit of analysis is the school, and there is a domain where baseline differences require statistical adjustments, the adjustment must be made for all outcomes in the domain. For example, if A, B, and C are in the same domain and available as baseline and post-intervention measures, and the baseline difference in B requires statistical adjustment, the analysis of all three measures must adjust for B.

## Outcomes

In this review, the requirements for outcome measures differs from guidance in the [WWC Procedures and Standards Handbook](#) in the following way:

- ***Interval for measuring post-intervention effects.*** The minimum length of the follow-up period is 6 months after program entry. A program that examines whether students have stayed in school using data collected less than 6 months after entry (a follow-up period of less than 6 months from baseline) will not be evaluated against standards or incorporated in the guide. The length of the intervention itself is not a factor.

Other requirements of outcome measures, including requirements for reliability and validity, are the same as those described in the [WWC Procedures and Standards Handbook](#).

## Statistical Adjustments

The [WWC Procedures and Standards Handbook](#) discusses the types of adjustments made by the WWC in Section IV: Subsection B Statistical Significance of Findings (pp. 24–26).

## Other Study Designs

Studies that use regression discontinuity or single-case designs are eligible for review using the appropriate pilot standards.

The [WWC Procedures and Standards Handbook](#) discusses the pilot standards for reviewing regression discontinuity design studies in Appendix D.

The [WWC Procedures and Standards Handbook](#) discusses the pilot standards for reviewing single-case design studies in Appendix E.

## REFERENCES

- Allensworth, E., & Easton, J. Q. (2005). *The on-track indicator as a predictor of high school graduation*. Chicago, IL: Consortium on Chicago School Research, University of Chicago. Retrieved from <http://ccsr.uchicago.edu/publications/track-indicator-predictor-high-school-graduation>
- Balfanz, R., Herzog, L., & Mac Iver, D. J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist, 42*(4), 223–235.
- Bowers, A. J., Sprott, R., & Taff, S. A. (2013). Do we know who will dropout out? A review of the predictors of dropping out of high school: Precision, sensitivity, and specificity. *The High School Journal, 92*(2), 77–100.
- Rumberger, R. W. (2011). *Dropping out: Why students drop out of high school and what can be done about it*. Cambridge, MA: Harvard University Press.