THE CAMPBELL COLLABORATION

Title Registration for a Systematic Review: Academic Intervention Programmes for Improving School Outcomes for Educationally Disadvantaged Youth and Low Achieving Students in Grade 7 to 12: A Systematic Review

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Submitted to the Coordinating Group of:

☐	Crime and Justice
☒	Education
	☐ Disability
☐	International Development
	☐ Nutrition
☐	Social Welfare
☐	Other:

Plans to co-register:

☒	No		
☐	Yes	☐ Cochrane	☐ Other
☐	Maybe		

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TITLE OF THE REVIEW

Academic Intervention Programmes for Improving School Outcomes for Educationally Disadvantaged Youth and Low Achieving Students in Grade 7 to 12: A Systematic Review

BACKGROUND

In the OECD countries, almost one in five of all youth between 25-34 years of age have not earned the equivalent of a high-school degree (upper secondary education). Moreover, on average across the OECD countries, 16% of 15-29 year-olds are neither employed, nor in education or training; this proportion increased substantially in 2009 and 2010 compared with pre-crisis levels (i.e., before 2008) (OECD, 2012). Entering adulthood with a low level of education is associated with reduced employment prospects as well as limited possibilities for financial progression in adult life (De Ridder et al., 2012; Johnson, Brett, & Deary, 2010; Scott & Bernhardt, 1999). Low educational attainment appears to be a growing risk factor in western societies, where demands for unskilled labour are rapidly declining. Furthermore, low levels of education are also negatively correlated with numerous health related issues and risk behaviours, such as drug use and crime, which has serious implications for the individual as well as for society (Berridge, Brodie, Pitts, Porteous, & Tarling, 2001; Brook, Stimmel, Zhang, & Brook, 2008; Desjardins, & Schuller, 2006; Horwood et al., 2010; Sabates, Feinstein, & Shingal, 2013).

In recent years, inequality in educational attainment has received increasing attention in many countries, and there is significant interest in information about effective programmes to increase academic achievement and enhance educational prospects for educationally disadvantaged youth and students with low school performance. The intervention programmes aimed at school performance described in the research literature are numerous and very diverse in terms of intervention focus, target group, and delivery mode. The review we plan to conduct will focus on individually targeted programmes provided to secondary school students, where academic skill building and learning are the primary intervention aims, and outcome variables are measures of academic achievement. This relatively broad selection of programmes will identify a wide range of interventions focusing primarily on academic progression, and will allow us to examine programme effectiveness across settings and intervention methods.

OBJECTIVES

The objective of this review is to assess the effectiveness of intervention programmes aimed at low achieving or at-risk secondary school students for increasing academic abilities and enhancing educational outcomes.

EXISTING REVIEWS

In some regards, this review shares some common ground with existing Campbell reviews and reviews in progress such as "Impacts of After-School Programs on Student Outcomes: A Systematic Review" (Zief, Lauver & Maynard, 2006), "Dropout Prevention and Intervention Programs: Effects on School Completion and Dropout among School-aged Children and Youth" (Wilson, Tanner-Smith, Lipsey, Steinka-Fry, & Morrison, 2011), and "Effects of College Access Programs on College Readiness and Enrollment" (Harvill et al., 2012).

Nevertheless, this review differs from these existing Campbell reviews. First of all, with the exception of Harvill et al. (2012), the listed reviews do not specifically look at secondary school students. Second of all, the review by Harvill et al. (2012) only includes studies from the United States. Lastly, with the exception of Zief et al. (2006), the listed reviews do not target an educationally disadvantaged or low performing student population, whereas this review investigates effectiveness of interventions for this particular vulnerable student group.

In addition to these Campbell reviews and reviews in progress, two additional reviews are worth mentioning at this early stage. Slavin, Lake, & Groff (2008) review programmes in middle and high school mathematics, whereas Slavin, Cheung, Groff, & Lake (2008) review reading programmes for middle and high schools. However, these reviews focus on all kinds of programmes, not programmes only for at-risk or low-performing students specifically.

INTERVENTION

We expect to include a wide range of intervention programmes, such as literacy and mathematical programmes, tutoring and mentor programmes, and cognitive training and alternative teaching strategies interventions.

Interventions eligible for review must have as their explicit primary expectation that the intervention will improve the academic performance of the student, and the intervention must be individually targeted. By individually targeted interventions, we refer to interventions that are aimed at certain students and/or student groups identified as low school performers or at-risk of school failure, such as youth with learning disabilities, minority students, students with a low grade point average, or students with specific learning difficulties (e.g., in reading or math).

Interventions applied to improve the quality of the common learning environment at school or class level in order to raise academic performance of all students (including average and above average students), and not predominantly to improve performance of underperforming or disadvantaged students, will be excluded. This includes curriculum-based programmes such as Success for All, Elements of Mathematics (EMP), or Cooperative Learning programmes. Many individually targeted interventions are supplemental

programmes delivered individually and are complementary to regular classes and school activities, such as the Reading Apprenticeship programme or individual computer-based training (e.g., CogMed). However, individually targeted interventions can be delivered in various settings, including in class (e.g., paired reading interventions or the Xtreme Reading programme), in group sessions (e.g., the READ 180 programme), or in the home (e.g., parent tutoring programmes).

There will be no initial criteria for duration of programmes, but duration and intensity of included interventions will be coded for the review.

Interventions having academic learning as a secondary goal (such as interventions where behavioural or socioemotional problems are the primary intervention aim, like Classroom Management or the SCARE Program) will be excluded.

POPULATION

The population samples eligible for the review include youth attending regular secondary school who have been identified as low school performers or as educationally disadvantaged, and are therefore at-risk of educational underachievement. The eligible student population thus includes both students identified by their observed academic achievement (e.g., students with low grade point average or specific academic difficulties, youth with learning disabilities or low IQ), and students that have been identified primarily on the basis of their educational, psychological, or social background (e.g., youth from families with low socioeconomic status, youth with ADHD, or youth placed in care).

Youth attending private, public, and boarding secondary schools are included, and youth receiving special education services within these secondary school settings are also included.

Populations that are considered not eligible for review include youth attending special education schools, internal residential schooling (within a residential institution), or those who receive other interventions aimed at school performance than the ones studied in this review. These conditions are considered by the review team as possible moderators of the intervention studied.

Only studies carried out in OECD countries will be included. This selection is conducted to ensure a certain degree of comparability between secondary school settings to align treatment as usual conditions in included studies. In order to take account of variations in the number of years children in OECD countries attend secondary schooling, populations eligible to be included must attend 7-12 grade.

OUTCOMES

Outcome measures must be standardised measures of academic achievement, and outcome measures must be present for low achieving students or students at-risk.

Primary outcomes

As the overall purpose of the review is to evaluate current evidence on effects of educational interventions on academic achievement, we include outcomes that cover main areas of fundamental academic skills required at primary school level. The primary outcome variables upon which the review will focus, and for which effect sizes will be coded, are:

- Standardised literacy tests (e.g., reading, spelling, and writing).
- Standardised numeracy tests (e.g., mathematical problem-solving, arithmetic and numerical reasoning, grade level math).

Secondary outcomes

Some studies may report test results in other academic subjects and/or measures of global academic performance. Furthermore, since cognitive development is very closely related to academic achievement, some studies may also report cognitive outcomes that can be of interest for the review. The following effect sizes will also be coded as secondary outcomes when available:

- Standardised tests in other academic subjects at primary school level (e.g., in science or second language).
- Measures of global academic performance (e.g., Woodcock-Johnson III Tests of Achievement, Stanford Achievement Test (SAT), report card grades, Grade Point Average).
- Psychometric tests (e.g., WISC IV, Raven's Progressive Matrices and Leiter-R).

Studies will only be included if they consider one or more of the primary outcomes.

STUDY DESIGNS

The proposed project will follow standard procedures for conducting systematic reviews using meta-analytic techniques.

Types of studies included are studies that adequately address the subject of effectiveness of interventions to improve students' academic achievement: randomised experiments, and quasi-experiments:

- RCTs - randomised controlled trials, including cluster-RCTs.
- QRCTs - quasi-randomised controlled trials (i.e., participants are allocated by means such as alternate allocation, person's birth date, the date of the week or month, case number, or alphabetical order).
- QESs - Quasi-experimental studies (quasi-experimental studies must demonstrate pre-treatment group equivalence via matching, statistical controls, or evidence of equivalence on key risk variables and student characteristics).

A control group is defined as a non-treatment condition; a comparison group is defined as an alternative treatment condition. Eligible types of control groups include waitlist controls and no-treatment controls. Eligible types of comparison groups include treatment as usual and different treatments. Studies using single group pre-post comparison will not be included.

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ROLES AND RESPONSIBILITIES

- Content: Misja Eiberg has insight in the field of school research as well as theoretical knowledge of educational and cognitive psychology, and will be in charge of review content.

- Systematic review methods: All members in the review team have experience in conducting systematic reviews or aspects of systematic reviews, and members have complementary areas of expertise. Anne-Sofie Due Knudsen provides oversight and consultation during the project and team members can also seek counsel by other SFI Campbell employees regarding all phases of the project.

- Statistical analysis: Anne-Sofie Due Knudsen has conducted statistical analysis on several other Campbell reviews, and will be in charge of the statistical meta-analysis together with Christoffer Sonne-Schmidt.

- Information retrieval: Anne-Marie Klint Jørgensen is information specialist and research librarian, and will be in charge of conducting information retrieval for the review.

A comprehensive search will be conducted using bibliographic databases, Internet searches, citations in previous meta-analyses and review articles, citations in research reports screened for eligibility, hand searches of relevant journals, and correspondence with researchers in the field.

FUNDING

SFI Campbell – The Danish Nationale Centre for Social Research.

POTENTIAL CONFLICTS OF INTEREST

None.

PRELIMINARY TIMEFRAME

- Date you plan to submit a draft protocol: 1 February 2014
- Date you plan to submit a draft review: 1 December 2014

AUTHOR DECLARATION

Authors' responsibilities

By completing this form, you accept responsibility for preparing, maintaining, and updating the review in accordance with Campbell Collaboration policy. The Coordinating Group will provide as much support as possible to assist with the preparation of the review.

A draft protocol must be submitted to the Coordinating Group within one year of title acceptance. If drafts are not submitted before the agreed deadlines, or if we are unable to contact you for an extended period, the Coordinating Group has the right to de-register the title or transfer the title to alternative authors. The Coordinating Group also has the right to de-register or transfer the title if it does not meet the standards of the Coordinating Group and/or the Campbell Collaboration.

You accept responsibility for maintaining the review in light of new evidence, comments and criticisms, and other developments, and updating the review every five years, when substantial new evidence becomes available, or, if requested, transferring responsibility for maintaining the review to others as agreed with the Coordinating Group.

Publication in the Campbell Library

The support of the Coordinating Group in preparing your review is conditional upon your agreement to publish the protocol, finished review and subsequent updates in the Campbell Library. Concurrent publication in other journals is encouraged. However, a Campbell systematic review should be published either before, or at the same time as, its publication in other journals. Authors should not publish Campbell reviews in journals before they are ready for publication in the Campbell Library. Authors should remember to include a statement mentioning the published Campbell review in any non-Campbell publications of the review.

I understand the commitment required to undertake a Campbell review, and agree to publish in the Campbell Library. Signed on behalf of the authors:

Form completed by:  **Date: 21 November 2013**