

## Effects of Physical Activity Interventions on Adolescents' Social Emotional Competence: A Systematic Review and Meta-Analysis

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### ADMINISTRATIVE INFORMATION

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**Review Stage at time of this submission** - Preliminary searches.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202540049

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 April 2025 and was last updated on 15 April 2025.

### INTRODUCTION

**Review question / Objective** What is the impact of physical activity interventions on adolescents' social emotional competence.

**Condition being studied** Social -emotional competence(SEC) is a core competency for adolescents to adapt to future society and is a key factor in personal well-being and success. Social-emotional competence is a combination of a person's ability to recognize and manage emotions, build healthy relationships, and make responsible decisions. It includes aspects of self-awareness, social awareness, relationship management and responsible decision-making. Physical activities are rich in activities such as emotional experience, moral refining and character building, which are effective vehicles for the development of social-emotional competence. A large body of prior research provides valuable indirect and evidence of the relationship between physical activity and social- emotional competence. However, existing research appears

to have focused primarily on the analysis of a single inferior factor of physical activity and social-emotional competence, with limited exploration of the relationship between physical activity and social-emotional competence as a comprehensive whole. Therefore, there is an urgent need for a systematic literature review and meta-analysis to address this aspect.

### METHODS

**Search strategy** PubMed, Web of Science, Scopus, SPORT discuss, Google Scholar.

**Participant or population** Adolescents aged 10 to 18.

**Intervention** Physical Activity Interventions.

**Comparator** Physical Activity.

**Study designs to be included** Randomized Controlled Trial.

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**Eligibility criteria** Additional inclusion criteria: eligible studies were peer-reviewed manuscripts in English. Studies that utilized primarily quantitative research methods. The population was adolescents aged 10-18 years. Other exclusion criteria: studies that did not focus on the effects of physical education interventions on social-emotional competence. Studies with inadequate reporting of methods or results. Studies that lacked sufficient detail to assess the quality and validity of the results. Review articles, conference abstracts, books, letters, editorials, and other non-original research materials. Studies with duplicated data.

**Information sources** PubMed, Web of Science, Scopus, SPORT discuss, Google Scholar. Manual searches: reviewing reference lists of relevant articles and systematic reviews, as well as performing forward citation tracking, helped to identify additional studies that may not have been captured through database searches.

**Main outcome(s)** Report the relationship between one or more physical activity interventions and social-emotional competence.

**Quality assessment / Risk of bias analysis** The Cochrane Collaboration's Risk of Bias Tool for Randomized Controlled Trials. Publication bias assessment: assesses the likelihood of publication bias, including examination of publication bias plots and statistical testing using the Egger regression test. Reporting guidelines: follow appropriate PRISMA statement reporting guidelines to clearly document and report the assessment process and results in the literature.

**Strategy of data synthesis** Date extraction: Extract from each included study: study characteristics (authors, year of publication, study design), participant characteristics (sample size, demographic characteristics), type of intervention, duration, measurement tools, outcomes.

**Subgroup analysis** Sources of heterogeneity were explored through subgroup analyses based on predefined study characteristics (e.g., age, gender, study quality) or intervention characteristics (e.g., different sports interventions).

**Sensitivity analysis** Studies with high risk of bias or extreme effect sizes were excluded to assess the robustness of the analysis.

**Country(ies) involved** China.

**Keywords** physical activity intervention, adolescent, social emotional competence, effects.

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