

## Research in Brief: **Physical activity interventions** **for depression in children and** **adolescents**

### Background

The global prevalence of mental health disorders among children and adolescents is estimated to be 20%. Depression is the most frequent mental health diagnosis, with high rates of onset during youth. Depression can lead to significant problems in social functioning, cognitive development, and academic achievement. In serious cases, depression may lead to suicide, which is third leading cause of death among adolescents.

Psychotherapy and pharmacological (drug) interventions are the primary treatment options for depression in children and adolescents. However, these treatment options may not be accessible to all. Interest in the use of physical activity to manage depression has resulted in emerging evidence. A meta-analysis was conducted in 2017 to assess the overall impact of physical activity interventions on depression in children and adolescents. Understanding the potential of physical activity in reducing depressive symptoms provides implications for policy in school settings.



### What is a meta-analysis?

A meta-analysis is a type of study that combines together the results of multiple relevant studies on a specific research question. The purpose of a meta-analysis is to draw a collective conclusion that provides stronger statistical evidence than any single study. This research method involves: 1) framing a specific research question; 2) running a comprehensive search in the literature; 3) screening the

### *Why does this matter?*

- ⇒ Depression is the most common mental health disorder, with high rates of onset during youth.
- ⇒ Depression can lead to significant problems in social functioning, cognitive development, and academic achievement.
- ⇒ Psychotherapy and pharmacological (drug) treatment are options that may not be accessible to all.
- ⇒ This meta-analysis provide evidence for the potential effectiveness of physical activity interventions in reducing depressive symptoms in children and adolescents.

The Knowledge Network for Student Well-Being is a project of the **Knowledge Network for Applied Educational Research** ([www.knaer-recrae.ca](http://www.knaer-recrae.ca))

Communities of practice in the KNSWB include: **Ontario Healthy Schools Coalition, PREVNet, School Mental Health ASSIST, and the Social Planning Network of Ontario**

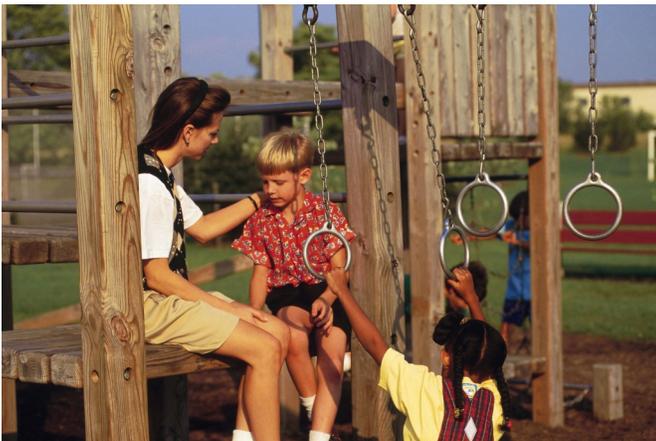
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retrieved articles for relevance; 4) assessing the research quality of the relevant articles; 5) abstracting results from the relevant articles; and 6) combining the results of the relevant articles to draw a conclusion.



## **What did the researchers do?**

The researchers conducted a meta-analysis to evaluate the impact of physical activity interventions on depressive symptoms in children (5-11 years) and adolescents (12-19 years). They searched for peer-reviewed articles published up until May 2011 from six online databases, including PsycInfo, CDSR, CENTRAL, TRoPHI, Web of Science, and MEDLINE.

All articles retrieved were subsequently screened against pre-defined inclusion/exclusion criteria by reviewers on the research team. Relevant studies included in this meta-analysis must have reported on interventions that promoted physical activity for those aged 5-19 years.

## **What did they learn?**

From 388 individual articles retrieved, nine studies were deemed eligible to be included in the meta-analysis. The period of the physical activity interventions ranged from 9 to 40 weeks, with

sessions lasting from 20 to 90 minutes. Sessions were held from 2 to 5 days per week. Additionally, the primary mode of physical activity was aerobic exercise.

It was found that there was small, but statistically significant overall effect for physical activity on depression. Compared to not receiving any physical activity intervention, receiving physical activity interventions resulted in a reduction of depressive symptoms in children and adolescents. Moreover, the highest reduction was observed for physical activity interventions that specifically targeted overweight and obese youth. Given that only nine studies were included in this meta-analysis, further research is needed to substantiate these findings.

This brief summary was prepared from:

Brown, H. E., Pearson, N., Braithwaite, R. E., Brown, W. J., Biddle, S. J. J., 2013. *Sports Medicine*, 43, 195-206. doi: 10.1007/s40279-012-0015-8.

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