

The effect of physical exercise on the mental health of children and adolescents: a meta-analysis

To enable PROSPERO to focus on COVID-19 submissions, this registration record has undergone basic automated checks for eligibility and is published exactly as submitted. PROSPERO has never provided peer review, and usual checking by the PROSPERO team does not endorse content. Therefore, automatically published records should be treated as any other PROSPERO registration. Further detail is provided [here](#).

Review methods were amended after registration. Please see the revision notes and previous versions for detail.

Citation

longhui li, jingyi wang, qin er li, quan fu. The effect of physical exercise on the mental health of children and adolescents: a meta-analysis. PROSPERO 2024 CRD42024567153 Available from:
https://www.crd.york.ac.uk/prosperto/display_record.php?ID=CRD42024567153

Review question

What is the impact of different types of physical exercise on the mental health of children and adolescents? Which forms of exercise can promote mental health?

Searches [1 change]

A searchA search of the literature will be conducted in five databases: CNKI, PubMed, Embase, Scopus, WOS, current to July 2024. Keywords and search term combinations will be used for the following concepts: physical activity, physical exercise, mental health, anxiety, depression, self-esteem, self-concept, social competence, stress, children, adolescents and youth. The search will be limited to human trials.

Types of study to be included [1 change]

Involves a randomized controlled trial or a randomized crossover trial or a non-randomized controlled trial.

Condition or domain being studied

In today's society, the mental health of children and adolescents is becoming increasingly prominent, and it is estimated that approximately 20% of adolescents worldwide suffer from mental health disorders. There is no universal definition of mental health, but key indicators include depression, anxiety, self-esteem, stress, and social adjustment. Common means of treating mental health problems are pharmacological interventions, psychological interventions, and exercise interventions, of which exercise interventions are the most effective and convenient, as has been confirmed in many studies.

Participants/population [1 change]

Subjects were physically and mentally healthy children and adolescents aged 5-18 years old

Intervention(s), exposure(s)

Interventions are acute or long-term interventions for various sports

Comparator(s)/control [1 change]

The control group must be from the same underlying population and can be the Physical Education (PE) as usual group, the waitlist control group, and the no intervention group.

Main outcome(s) [1 change]

Studies that identified at least one type of mental health as the dependent variable.

Measures of effect

Differences in the effect of improving mental health

Additional outcome(s)

none

Data extraction (selection and coding)

Titles and abstracts of studies retrieved using the search strategy and those from additional sources will be screened independently by two review authors to identify studies that potentially meet the inclusion criteria outlined above. The full text of these potentially eligible studies will be retrieved and independently assessed for eligibility by two review authors, which will be blinded to each other's decisions. Any disagreement between the two review authors over the eligibility of particular studies will be resolved through discussion with a third review author.

Risk of bias (quality) assessment [1 change]

Two review authors will independently assess the quality of the included studies based on the modified PEDro scale. If there is disagreement, a third author will assess the issues and discuss them until consensus is reached. In the final review publication, scores for each of the 10 items on the scale will be tabulated.

Strategy for data synthesis [1 change]

We use R Studio or Stata to merge and analyze the extracted data. first, we examine the heterogeneity of the articles. If there is greater than 50%, we choose the random-effects model, otherwise we choose the fixed-effects model. We also performed subgroup analyses, publication bias tests, and sensitivity analyses.

Analysis of subgroups or subsets [1 change]

Intervention type, Intervention duration or time, Age, etc.

Contact details for further information

li longhui

2489326766@qq.com

Organisational affiliation of the review [1 change]

??????

Review team members and their organisational affiliations [1 change]

Dr longhui li. Capital University of Physical Education And Sports
Dr jingyi wang. Capital University of Physical Education And Sports
Dr qin er li. Capital University of Physical Education And Sports
Professor quan fu. Capital University of Physical Education And Sports

Type and method of review

Meta-analysis, Systematic review

Anticipated or actual start date

27 August 2024

Anticipated completion date

27 November 2024

Funding sources/sponsors

cognitive sport psychology laboratory in capital university of physical education and sport

Conflicts of interest

None known

Language

??, ???? (there is not an English language summary)

Country

??

Stage of review

Review Ongoing

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

Adolescent; Child; Exercise; Humans; Mental Health

Date of registration in PROSPERO

21 August 2024

Date of first submission

11 August 2024

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	Yes	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Revision note

The inclusion criteria were changed from randomized control to randomized and non-randomized control, and the age of participants was changed to 5-18 years to include preschool children. A Scopus database was added to the literature search. The corresponding literature quality assessment tools and analysis software were also changed. A more comprehensive analysis of physical activity interventions on the mental health of children and adolescents was desired.

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

21 August 2024

21 August 2024

16 September 2024