International Platform of Registered Systematic Review and Meta-analysis Protocols



INPLASY

# The effects of active video games on psychology among overweight and obese adolescents:A systematic review

INPLASY202410084

doi: 10.37766/inplasy2024.1.0084

Received: 18 January 2024

Published: 19 January 2024

**Corresponding author:**
Yiqiang Mai

maiyiqiang929@126.com

**Author Affiliation:**
Universiti Putra Malaysia.

Mai, YQ[1]; Soh, KG[2]; Saad, HA[3]; Deng, NN[4]; Wang, Q[5].

## ADMINISTRATIVE INFORMATION

**Support -** None.

**Review Stage at time of this submission -** Completed but not published.

**Conflicts of interest -** None declared.

**INPLASY registration number:** INPLASY202410084

**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 January 2024 and was last updated on 3 February 2026.

## INTRODUCTION

**Review question / Objective** Systematically review experimental studies in order to confirm the psychological effects of AVGs on adolescents who are overweight or obese.

**Condition being studied** Overweight and obese.

## METHODS

**Search strategy** Upon peer-review feedback, this revision aligns the registered search period with the one actually executed in the final review. The change from 2010-2021 to 2013-2025 was made a priori to ensure the evidence synthesis reflects more recent technological and interventional contexts in the rapidly evolving field of active video games.

**Participant or population** Overweight and obese adolescents.

**Intervention** active video games.

**Comparator** None.

**Study designs to be included** randomized controlledtrial (RCT), non-randomized controlled trial (Non-RCT) withtwo or more groups, and single-group trials with pretestand post-test designRCT.

**Eligibility criteria** We used the PICOS (population, intervention, comparison,outcome, study design) as the inclusion criteria, were included. Thus,studies were included if they met the following criteria:(1)A fulltext,peer-reviewed study

published in English,describing the effects of exergames interventions on overweight and obese adolescents (male and female), randomized controlledtrial (RCT), non-randomized controlled trial (Non-RCT) withtwo or more groups, and single-group trials with pretestand post-test design;(2) In this study, only included studies on planned and organized exergames intervention to improve or maintain physical activity,weight-loss and other changes of biochemical indexes;(3) There were no restrictions on the sample size, study location, and intervention time for the included studies.(4) The publication time of the article is from 2010 to July 2021. Articles in this period can be included.Studies were excluded if they met several exclusion criteria: (1) Studies published articles, meeting abstracts, case report.

**Information sources** The literature search for this review utilized four international databases: SCOPUS, PubMed, EBSCOhost (SPORTDiscus), and Web of Science..

**Main outcome(s)** The psychological effects of AVG on overweight and obese adolescents mainly focus on self-efficacy (n=5), social support and peer support (n=4), motivation (n=3), quality of life (n=2), and self-esteem (n=2). In total, 25 different psychological outcomes were examined in the studies..

**Quality assessment / Risk of bias analysis** The design quality analysis of the AVG intervention studies was calculated using the 10-item scale in Table 2. Specifically, each item was rated as “yes” (1), “no”(0), or “not applicable(N/A).” In accordance with previous studies (Peng et al., 2013; Z. Gao & Chen, 2014), the authors individually assessed the research design quality of each study using a 10-item scale. A design quality score, ranging from 0 to 10, was calculated by summing up the favorable rates for each item. High quality was defined when a RCT or controlled trial scored above the median score of 5.5.

**Strategy of data synthesis** A total of 714 publications with potential were identified using the electronic database search. Specifically, 64 articles were found on PubMed, 100 on SCOPUS, 432 on EBSCOhost (SPORTDiscus), 117 on the Web of Science, and 1 from a reference source. After removing duplicates (78), researchers assessed the title and abstract of 636 publications to determine their eligibility. The articles removed due to missing information include: 583 articles without average values (423); 83 review papers; 45 articles without an experimental design; and 32 articles that were either merely abstracts or not written in English. After that, the remaining 53 papers were later studied, and 43 articles were deleted according to inclusion criteria, eventually leaving 10 relevant articles that satisfied the inclusion criteria for the review.

**Subgroup analysis** None.
**Sensitivity analysis** None.

**Country(ies) involved** Malaysia.

**Keywords** psychology, overweight, obese, adolescents, self-efficacy.

**Contributions of each author**
Author 1 - Yiqiang Mai.
Email: maiyiqiang929@126.com
Author 2 - Kim Geok Soh.
Author 3 - Hazizi Abu Saad.
Author 4 - Nuannuan Deng.
Author 5 - Qiang Wang.