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Reciprocal Associations Between Sports Enjoyment and Physical Activity Participation: A Systematic Review

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ADMINISTRATIVE INFORMATION**Support** - Humanities and Social Science Fund Project of the Ministry of Education of China.**Review Stage at time of this submission** - Data extraction.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202690084**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 September 2026 and was last updated on 21 September 2026.**INTRODUCTION**

Review question / Objective Review question: In individuals across the lifespan, what are the reciprocal associations between sports/physical activity (PA) enjoyment and PA/sport participation, and what factors moderate or mediate these associations?

P – Population

Children, adolescents, adults, and older adults; any sex/gender; general, clinical, athletic, or educational populations. Settings include sport, exercise, physical education, and leisure-time PA. Enjoyment and participation must be measured in the same participants.

I – Intervention/Exposure

Bidirectional exposure:

Pathway A: Sports/PA enjoyment – enjoyment, fun, pleasure, anticipated enjoyment, or closely related positive affect in sport/PA/exercise/PE.

Pathway B: PA/sport participation – frequency, volume, attendance, adherence, persistence, dropout, intensity, or objective activity. Each construct can serve as the exposure depending on the direction examined.

C – Comparator

Lower or no enjoyment; lower or no participation; inactive vs. active groups; experimental control, waitlist, or usual-care conditions; alternative activity conditions; within-person change over time.

O – Outcomes

Primary: Actual PA/sport participation behavior (e.g., frequency, attendance, adherence, persistence, dropout, volume, intensity, accelerometer-measured activity) and enjoyment. Secondary: Participation intention or commitment; proposed mediators (autonomy, competence, relatedness, intensity, activity format, social

structure); moderators (age, sex, population, setting, design, activity type).

Effect measures: Correlations, regression coefficients, odds ratios, group differences, and qualitative themes.

S – Study Design

Empirical quantitative, qualitative, or mixed-method studies; cross-sectional, longitudinal, cohort, experimental, or quasi-experimental designs. Include peer-reviewed journal articles and eligible graduate theses. Exclude reviews, protocols without results, conference abstracts, commentaries, case reports, and studies measuring enjoyment and participation in different individuals.

Synthesis focus: The review separates enjoyment → participation from participation/context → enjoyment and distinguishes concurrent associations, temporal predictions, experimental effects, intentions, and actual behavior.

Condition being studied Insufficient physical activity and sport participation (physical inactivity) and its reciprocal relationship with sports/physical activity enjoyment. Physical inactivity is not a single disease but a modifiable behavioral risk condition associated with increased risk of cardiovascular disease, type 2 diabetes, obesity, certain cancers, poor mental health, and premature mortality. Sports/physical activity enjoyment is an affective experience (e.g., fun, pleasure, positive affect) that may influence initiation, adherence, persistence, and dropout in physical activity and sport, while participation itself may also shape enjoyment. This review will examine the bidirectional associations between enjoyment and participation across children, adolescents, adults, and older adults, in general, clinical, educational, and athletic populations, and in sport, exercise, physical education, and leisure-time physical activity settings.

METHODS

Participant or population Children, adolescents, adults, and older adults.

Intervention This review does not evaluate a single clinical intervention. It examines reciprocal associations between sports/physical activity (PA) enjoyment and PA/sport participation. Therefore, the “intervention/exposure” includes two broad, bidirectional groups:

Enjoyment-targeted interventions or exposures
Any structured or naturalistic manipulation intended to increase, decrease, or modify sports/

PA enjoyment, fun, pleasure, or closely related positive affect. Examples include autonomy-supportive coaching or teaching, fun-focused physical education, gamification, music, choice, novelty, exergaming/virtual reality, mastery-involving climates, social connectedness, self-selected intensity, and enjoyment-enhanced exercise programs.

Participation-targeted interventions or exposures

Any intervention intended to increase, decrease, or modify PA/sport participation. Examples include school- or community-based sport programs, exercise referral, behavioral counseling, digital or wearable prompts, incentives, environmental modifications, peer or coach support, physical education curricula, and structured exercise training.

In addition, observational and longitudinal exposures will be included: baseline enjoyment predicting later participation; baseline participation predicting later enjoyment; and within-person change in one construct predicting change in the other.

Comparator: No intervention, usual care, waitlist control, lower enjoyment or participation, alternative intervention, or within-person pre-post change.

Outcomes: Sports/PA enjoyment and actual PA/sport participation (frequency, volume, attendance, adherence, persistence, dropout, intensity, objective activity). Participation intention/commitment will be treated as a secondary outcome.

Study designs: Experimental, quasi-experimental, longitudinal, cross-sectional, qualitative, and mixed-method studies, provided enjoyment and participation are measured in the same participants.

Exclusions: Reviews, protocols without results, conference abstracts, commentaries, case reports, and studies measuring enjoyment and participation in different individuals.

Comparator This review does not directly apply an intervention or comparator to participants. It synthesizes primary studies examining reciprocal associations between sports/physical activity (PA) enjoyment and PA/sport participation. Therefore, the comparator is defined at the study level according to the design of each included study.

For experimental and quasi-experimental studies:

No intervention, usual care, waitlist control, or attention control.

Active comparator: standard physical education, conventional exercise/sport program, or participation intervention without an enjoyment-enhancement component.

Alternative intervention: different activity format, intensity, social structure, autonomy support, or motivational climate.

Lower versus higher enjoyment or participation conditions.

For observational and longitudinal studies:

High versus low sports/PA enjoyment.

Active versus inactive or less active participants.

Adherent/persistent participants versus dropouts.

Within-person change: increase versus decrease in enjoyment or participation over time.

Baseline versus follow-up comparisons within the same participants.

For qualitative and mixed-method studies:

Contrasting experiences, contexts, or groups (e.g., enjoyable vs. unenjoyable activity, sustained vs. discontinued participation).

For meta-analysis of correlations:

No traditional comparator is required. The effect size is the zero-order correlation between enjoyment and actual PA/sport participation in the same sample. Participation intention and commitment will not be pooled quantitatively.

Target population: Children, adolescents, adults, and older adults; general, clinical, educational, and athletic populations; in sport, exercise, physical education, and leisure-time PA settings.

Exclusion of comparators: Studies will be excluded if enjoyment and participation are measured in different individuals, or if no empirical association, group comparison, or change estimate can be extracted.

Study designs to be included This review will include empirical quantitative, qualitative, and mixed-methods studies that examine the reciprocal associations between sports/physical activity (PA) enjoyment and PA/sport participation in the same participants. Eligible study designs include: Observational quantitative designs: cross-sectional studies, longitudinal studies, prospective cohort studies, retrospective cohort studies, and ecological momentary assessment/experience sampling studies. Experimental and quasi-experimental designs: randomized controlled trials, cluster-randomized trials, non-randomized controlled tri.

Eligibility criteria Studies were eligible when they: (a) included a measure of enjoyment, fun, pleasure, or closely related positive affect in a physical activity, exercise, physical education, or sport context; (b) included a measure or manipulation of physical activity or sport participation, participation intention, adherence, attendance, persistence, or dropout; (c) examined the relationship within the same participants; and (d) reported empirical quantitative, qualitative, or mixed-method evidence. Peer-reviewed journal articles and two graduate theses that met the same substantive eligibility criteria were included. Reviews, conference abstracts, commentaries, case reports, and studies in which enjoyment and participation were measured in different individuals were excluded.

Information sources For each eligible report, publication year, design, sample, population and setting, enjoyment construct, participation outcome, direction of evidence, and quantitative association were extracted when available. Records were cross-checked across search sources to avoid duplicate inclusion.

Main outcome(s) Enjoyment as a predictor of participation, Participation as a determinant of enjoyment, Mechanisms and boundary conditions.

Quality assessment / Risk of bias analysis We conducted a sensitivity analysis to inspect the stability of the combined effect size.

Strategy of data synthesis Qualitative synthesis separated enjoyment -> participation from participation/context -> enjoyment and distinguished concurrent associations, temporal predictions, experimental effects, intentions, and actual behavior. Studies were grouped by population, setting, design, activity format, intensity, autonomy, social structure, and proposed mediators. Directional counts are not mutually exclusive because a study could contribute evidence to both pathways.

Subgroup analysis Activity intensity/level subgroup.

Sensitivity analysis The pooled estimate was driven partly by Teixeira et al. (2022), which combined the largest individual correlation with a relatively small sample. Omitting that study reduced the pooled association to $r = .225$ (95% CI [.193, .256]) and eliminated observed heterogeneity ($I^2 = 0\%$).

Country(ies) involved China.

Keywords physical activity enjoyment; sport participation; exercise adherence; affective response; reciprocal association; systematic review; meta-analysis.

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