



## Physical Education as A Preventive Strategy for Childhood Obesity: A Systematic Literature Review

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### Abstract

The rising prevalence of childhood obesity represents a major public health challenge worldwide (World Health Organization [WHO], 2023). Educational institutions, particularly schools, are recognised as key environments for promoting healthy lifestyles among children (Sallis et al., 2012). Physical Education (PE) offers a structured and curriculum-based platform to encourage regular physical activity and positive health behaviours. This study presents a Systematic Literature Review (SLR) examining the role of Physical Education in addressing childhood obesity. Relevant studies were identified from established academic databases and analysed thematically. The review reveals that consistently implemented and pedagogically sound Physical Education programmes are associated with improvements in physical fitness, reductions in obesity-related indicators, and enhanced psychological well-being among children (Dobbins et al., 2013; Hills et al., 2015). Nevertheless, the effectiveness of these interventions is influenced by factors such as curriculum design, teacher expertise, institutional commitment, and policy support.

### I. Introduction

The increasing rate of obesity among children has become a significant concern for global public health systems (WHO, 2023). Childhood obesity is associated with adverse outcomes, including metabolic disorders, cardiovascular complications, musculoskeletal limitations, and psychosocial challenges (Daniels, 2006). Evidence suggests that obesity during childhood often persists into adulthood, increasing the risk of chronic diseases later in life (Singh et al., 2008).

In Malaysia and other developing countries, lifestyle changes characterised by reduced physical activity, increased sedentary behaviour, and unhealthy dietary practices have contributed to rising obesity rates among children (Ng et al., 2014). Schools are strategically positioned to influence health-related behaviours, as children spend a substantial portion of their daily lives in educational

settings (Pate et al., 2006). Physical Education plays a central role in promoting movement, developing motor competence, and fostering lifelong healthy habits (Kirk, 2010).

Despite its importance, the implementation of Physical Education varies considerably across contexts. Constraints related to time allocation, teacher training, and resource availability may limit its effectiveness (Hardman, 2008). Therefore, a systematic synthesis of existing empirical evidence is necessary to evaluate the role of Physical Education in childhood obesity prevention.

### II. Research Objectives

This review is guided by the following objectives:

1. To explore the association between Physical Education participation and childhood obesity.
2. To assess the effectiveness of Physical Education-based interventions in improving obesity-related outcomes.
3. To identify recurring findings, challenges, and research trends within existing literature.
4. To formulate recommendations for enhancing Physical Education practices in school settings

### III. Methodology

#### 3.1 Research Design

This study employed a **Systematic Literature Review (SLR)** methodology to ensure a transparent, structured, and replicable research process. The SLR approach enables comprehensive synthesis of existing empirical evidence related to Physical Education and childhood obesity.

#### 3.2 Data Sources and Search Strategy

Relevant studies were retrieved from academic databases including **Scopus**, **ERIC**, **PubMed**, and **Google Scholar**. The search utilised keywords such as “Physical Education,” “childhood obesity,” “physical activity,” “school-based intervention,”



and “health outcomes.” Boolean operators were applied to refine the search results.

### 3.3 Inclusion and Exclusion Criteria

- The inclusion criteria were:
- Peer-reviewed journal articles
- Studies focusing on children or adolescents
- Research involving Physical Education or structured physical activity
- Studies reporting obesity-related or health outcomes

### 3.4 Data Analysis

The selected studies were analysed using thematic analysis. Key findings were categorised into recurring themes related to intervention effectiveness, population differences, health outcomes, and innovative approaches.

## IV. Results

Four major themes emerged from the analysis:

### 4.1 Effectiveness of Physical Education Interventions

Most studies reported that structured and regular Physical Education programmes significantly improved physical fitness and reduced Body Mass Index (BMI) and body fat percentage among children.

### 4.2 Physical Education Across Diverse Populations

Physical Education interventions benefited children across different socio-economic and cultural backgrounds. However, variations in facilities, instructional time, and teacher expertise influenced programme effectiveness.

### 4.3 Health Outcomes and Measurement Indicators

Positive outcomes included improvements in cardiovascular endurance, muscular strength, flexibility, and psychological well-being. Several studies also highlighted enhanced self-esteem and motivation among participants.

### 4.4 Innovation in Physical Education Practices

Recent studies emphasised the use of technology, gamification, and student-centred pedagogies to increase engagement and participation in Physical Education classes.

## V. Discussion

The findings reinforce the role of Physical Education as a critical component of school-based obesity prevention strategies. Regular participation in Physical Education contributes to increased energy expenditure and promotes healthier lifestyle behaviours (Sallis et al., 2012). However,

programme effectiveness depends heavily on curriculum quality, teacher competence, and institutional support (Hardman, 2008; Kirk, 2010).

## VI. Conclusion

This review provides strong evidence that Physical Education is an effective and sustainable strategy for addressing childhood obesity within school settings. Strengthening policy implementation, professional development, and curriculum alignment is essential to maximise its preventive potential.

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