



CHILDHOOD OBESITY AND PHYSICAL EDUCATION: WEIGHT STIGMA, PEDAGOGICAL APPROACHES, AND INCLUSION IN SCHOOL SETTINGS. A NARRATIVE REVIEW

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Abstract:

The present study examines childhood obesity as a complex biological, social, and educational phenomenon, emphasizing the role of Physical Education (PE) in shaping perceptions of the body and health. It highlights that the dominant biomedical approach and the widespread use of the Body Mass Index (BMI), although extensively adopted, present significant limitations, as they fail to capture biological diversity and often lead to inaccurate classifications and stereotypical assumptions. The literature indicates that a weight-centered approach in school Physical Education may reinforce stigmatization, bullying, and social exclusion among students with larger bodies, negatively affecting their self-image, mental health, and participation in physical activity (PA). Weight stigma emerges as a critical factor that is more strongly associated with psychological consequences than body weight itself. At the same time, the study underscores the decisive role of teachers of PE and the broader pedagogical context. Educators' attitudes, expectations, and instructional practices may either reproduce stereotypes or promote inclusion. Particular emphasis is placed on critical pedagogical approaches, including critical obesity pedagogy and fat pedagogy, which challenge the pathologization of the body and advocate for destigmatization, body diversity, and social justice in education. Furthermore, the study highlights the importance of intersectionality, demonstrating that weight stigma is not experienced uniformly but is influenced by factors such as gender, social class, race/ethnicity, sexuality, and disability, thereby intensifying educational inequalities. Overall, the study proposes a pedagogical reconceptualization of PE, moving away from practices centered on body surveillance and comparison and toward an inclusive model that emphasizes participation, enjoyment of movement, and acceptance of all students. It also stresses the need for PE teacher professional

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development and the revision of school practices and policies so that PE may function as a space of equality, support, and pedagogical justice.

Keywords: physical education, sport pedagogy, obesity, school, children

1. Introduction

Childhood obesity constitutes one of the most significant public health concerns worldwide (NCD-RisC, 2026). According to the World Health Organization (WHO), more than 390 million children and adolescents are classified as overweight or obese, and these figures are expected to increase further (WHO, 2024). Within this context, the school community—and particularly Physical Education (PE)—assumes a central role in promoting physical activity (PA) and shaping attitudes toward health and the body (Tambalis KD, 2023).

PE is not merely a context for exercise; it is also a social arena in which perceptions of the body, health, and personal worth are constructed and negotiated (Tambalis, 2025; Tambalis & Dermentzi, 2026). International literature suggests that obesity-related discourse in schools is often grounded in biomedical and individualistic approaches that emphasize weight control and personal responsibility while overlooking broader social and cultural determinants (Evans *et al.*, 2008; Evans *et al.*, 2013; Nutter *et al.*, 2016). Critical obesity pedagogy and fat pedagogy challenge dominant assumptions regarding the “normal” body and draw attention to the social and political dimensions of body weight within educational settings (Rich *et al.*, 2020). Simultaneously, these perspectives promote the destigmatization of fatness and the development of more inclusive educational environments (Pausé, 2019; Martinson & Elia, 2018).

The relevance of such approaches is particularly evident in PE, where the body is highly visible and subject to evaluation. Research indicates that educators may reproduce stereotypes associating obesity with characteristics such as laziness or reduced competence, thereby negatively affecting students’ participation (Carmona-Márquez *et al.*, 2020). Furthermore, weight-based discrimination frequently occurs in educational and professional environments related to PA and health, undermining individuals’ relationships with PA and exercise (Brumitt & Turner, 2025; Zaroubi *et al.*, 2021). As a result, students with larger bodies may experience exclusion, reduced self-confidence, and limited participation in PE classes.

The primary research problem addressed in this study concerns the ways in which dominant discourses surrounding obesity and health shape the pedagogical framework of PE and influence the experiences of students with larger bodies. The application of critical pedagogical approaches may contribute to a reconceptualization of PE toward a more inclusive, socially sensitive, and equitable direction.

1.1 Definition and Statement of the Problem

Obesity and excessive body weight represent major public health concerns with increasing prevalence worldwide (NCD-RisC, 2024). Traditionally, obesity is defined as an excessive accumulation of body fat that may adversely affect health. Its rising prevalence has been linked to multiple factors, including genetic predisposition, positive energy balance, increased consumption of energy-dense foods, and reduced levels of PA associated with contemporary sedentary lifestyles (Sigurðardóttir *et al.*, 2024). The dominant tool for assessing obesity is the Body Mass Index (BMI), which has been widely used since the 1980s. However, its validity has increasingly been questioned because it fails to account for important biological and anthropometric parameters. The uncritical use of BMI may reinforce simplistic associations between body weight and health and contribute to the reproduction of stereotypes.

The central questions addressed in this study concern the limitations of BMI as a means of student assessment, its potential effects on students' psychological well-being and participation in PE, and the role of schools in either reproducing or challenging weight-based stigma.

1.2 Description of Key Concepts

1.2.1 Critical Obesity Pedagogy

Critical obesity pedagogy challenges dominant biomedical and individualistic interpretations of body weight and examines the social, cultural, and educational mechanisms that shape perceptions of the “healthy” body (Quennerstedt *et al.*, 2021; Watkins & Gerber, 2016). It is grounded in principles of social justice and promotes teaching practices that encourage critical reflection and an understanding of health as a socially constructed phenomenon (Fitzpatrick & Powell, 2019).

1.2.2 Fat Pedagogy

Fat pedagogy conceptualizes the body as a socially and politically constructed experience rather than solely as a biomedical category. It emphasizes the destigmatization of fatness, challenges dominant body ideals, and advocates for the creation of inclusive learning environments (Pausé, 2019).

1.2.3 Weight Stigma and Weight Bias

These terms refer to prejudices, stereotypes, and discriminatory practices based on body weight. Weight bias primarily concerns negative attitudes and evaluative judgments, whereas weight stigma encompasses experiences of social exclusion and devaluation that arise from such attitudes (Nutter *et al.*, 2019; Côté *et al.*, 2025).

1.2.4 Intersectionality

Intersectionality examines how different dimensions of social identity and inequality—such as gender, social class, race, disability, and body weight—interact to shape individuals' experiences (Else-Quest & Hyde, 2016; Bowleg, 2025). Within the field of

education, intersectionality contributes to understanding how weight stigma affects students differently depending on their social position and multiple identities.

1.3 Purpose of the Study

The purpose of this study is to explore the intersectional dimensions of critical obesity pedagogy within the context of PE. Specifically, it investigates how dominant perceptions of the body, health, and obesity influence pedagogical practices, students' experiences, and the conditions that shape their participation in Physical Education. In addition, the study highlights the role of weight stigma and intersectionality in the production and maintenance of educational inequalities.

1.4 Significance of the Study

This study contributes to understanding PE not only as a domain of health promotion but also as a context in which body- and weight-related stereotypes and inequalities may be reproduced. The international literature demonstrates that weight stigma negatively affects students' participation, self-perceptions, and relationships with physical activity. Consequently, the study contributes both to the theoretical discourse on critical body pedagogies and to the development of safer, more inclusive, and less stigmatizing learning environments within school Physical Education.

2. Material and Methods

2.1 Type of Study

The present study adopts a narrative literature review approach aimed at exploring critical obesity pedagogy, intersectionality, and their applications within PE. This methodological approach was selected because it allows for the synthesis and critical analysis of both theoretical and empirical studies that conceptualize body weight as a social, cultural, and pedagogical phenomenon rather than solely as a matter of individual health (Martinson & Elia, 2018; Fitzpatrick & Powell, 2019).

2.2 Search Sources and Literature Review Strategy

The literature search was conducted using the international electronic databases PubMed, Scopus, SPORTDiscus, ERIC, ScienceDirect, and Web of Science. In addition, the reference lists of selected articles were examined to identify further relevant studies. The search strategy was based on combinations of keywords using the Boolean operators AND and OR in order to identify studies that addressed the research topic either directly or indirectly. The search primarily focused on publications from the past 10–20 years; however, earlier theoretically significant works were also included when deemed necessary for understanding the development of the field.

2.3 Keywords

The primary keywords used in the search process included: childhood obesity, critical obesity pedagogy, fat pedagogy, physical education, obesity discourse in PE, weight stigma, weight bias, body diversity, inclusive physical education, BMI criticism, BMI limitations, body composition, student engagement and weight, intersectionality in education, and anti-fat bias. Additionally, combined search terms were employed, including: fat pedagogy AND physical education, weight bias AND school, intersectionality AND body size, body pedagogies AND health education, and inclusive PE AND stigma, in order to identify studies with greater relevance to school and educational contexts.

2.4 Inclusion and Exclusion Criteria

The review included studies that met the following criteria: publication in peer-reviewed scientific journals; theoretical, empirical, or review-based research designs; focus on school education, Physical Education, body pedagogies, or bodily diversity; examination of issues related to weight stigma, weight bias, or intersectionality; and publication primarily in English during the past two decades.

Conversely, studies were excluded if they approached obesity exclusively as a biomedical or clinical phenomenon without addressing its social or pedagogical dimensions. Research lacking direct relevance to educational settings, as well as publications that did not provide sufficient theoretical or methodological rigor, were also excluded.

2.5 Selection and Organization of the Literature

The selection process was conducted in three stages. Initially, relevant publications were identified through database searches. Subsequently, titles and abstracts were screened, and finally, the full texts of the most relevant studies were assessed. Following the application of the inclusion and exclusion criteria, articles unrelated to educational contexts or focusing exclusively on clinical and medical perspectives of obesity were removed.

The final body of literature was organized thematically around five major areas: (a) critical obesity pedagogy and fat pedagogy; (b) experiences of weight stigma and anti-fat bias in schools and Physical Education; (c) intersectional approaches to body weight; (d) the role of Physical Education in shaping perceptions of the body and health; and (e) practical applications for creating more inclusive learning environments. Overall, the review focused on the most relevant and scientifically rigorous publications aligned with the objectives of the present study.

A section intended to contain a detailed description of all the methods, materials, collaborators and participants in the study. The protocols used for data acquisition, techniques and procedures, investigated parameters, methods of measurements and apparatus should be described in sufficient detail to allow other scientists to understand, analyze and compare the results. The study subjects and participants should be described

in terms of number, age and sex. The statistical methods should be described in detail to enable verification of the reported results. This section could contain a separate subsection that comprises the explanation of the abbreviated terms used in the study.

3. Results and Discussion

In recent years, childhood obesity has become the subject of considerable scholarly attention, influencing the ways in which PE teachers perceive and interact with overweight and obese students. One of the dominant perspectives conceptualizes obesity as a major public health concern—or even a “global epidemic”—and positions PE as a primary means of addressing it (Quennerstedt *et al.*, 2021). Within biomedical discourse, some educators regard obesity as a problem that must be “corrected” through PA, attributing it largely to students’ individual responsibility (Korp *et al.*, 2023).

This perspective has been criticized for shifting the purpose of PE from pedagogical development toward weight management and calorie expenditure, potentially reinforcing the stigmatization of overweight students (Varea & Underwood, 2016). Research further indicates that many educators continue to adopt stereotypical beliefs, perceiving obese students as less willing or less capable of participating in PE classes, often accompanied by lower expectations of their performance (Carmona-Márquez *et al.*, 2021). Such perceptions may negatively affect students’ self-esteem and mental well-being while hindering the creation of inclusive learning environments (Varea & Underwood, 2016).

Another widespread assumption associates thinness with health and relies on BMI as a primary criterion for evaluating physical condition (Glock & Schuchart, 2021). Although BMI has been criticized for its inability to distinguish between muscle mass and body fat, it continues to be used by many educators to classify students as either “normal weight” or overweight (Cale & Harris, 2013). This practice may reinforce restrictive understandings of the “healthy body,” linking health and personal worth to physical appearance and negatively affecting students’ participation in physical activities.

Despite the persistence of these views, they are not universally endorsed by educators. Research suggests that many PE teachers challenge the assumption that obesity inherently constitutes a barrier to participation and instead adopt student-centered and supportive approaches aimed at creating positive exercise experiences for all students, regardless of body type (Barker *et al.*, 2020). Likewise, they reject the notion of PE as a “vaccine” against obesity, arguing that such a perspective diminishes the playful and educational nature of the subject and may further contribute to stigmatization (González-Calvo *et al.*, 2022).

Within the same framework, contemporary sport pedagogy maintains that the participation of overweight students is influenced primarily by social, psychological, and pedagogical factors rather than by body weight itself. Teacher-centered practices, insufficient differentiation in instruction, and potential educator biases may restrict

participation and create unsupportive learning environments (Stewart & Webster, 2018). Furthermore, the emphasis on performance, comparison, and the evaluation of physical characteristics often acts as a deterrent for overweight students.

To address these challenges, scholars advocate the creation of inclusive learning environments through strategies such as adapting activities to students' abilities, reducing competitive practices, and emphasizing effort and participation rather than performance outcomes (Rukavina & Doolittle, 2016; Wittels & Mansfield, 2021). Consequently, the successful inclusion of overweight students in PE appears to depend more on the quality of the pedagogical environment than on students' body size itself.

3.1 Theoretical Foundations of Critical Obesity Pedagogy and Fat Pedagogy

Contemporary scholarship argues that body weight cannot be understood solely as a biomedical or individual category but must also be recognized as a socially, culturally, and pedagogically constructed phenomenon. Within this framework, critical obesity pedagogy challenges dominant approaches that attribute obesity to personal failure, lack of self-discipline, or poor lifestyle choices. Instead, it highlights how perceptions of the body, health, and PA are shaped through social norms, power relations, and neoliberal ideologies that place responsibility for health almost exclusively on the individual (Martinson & Elia, 2018; Fitzpatrick & Powell, 2019).

This perspective is particularly relevant to school education and, more specifically, to PE, where health education often remains individualistic and behaviorally oriented. Martinson and Elia (2018) argue that health should be approached through ecological, political-economic, and critical pedagogical frameworks that enable students to understand both individual practices and the broader social and structural determinants of health. Similarly, Fitzpatrick and Powell (2019) emphasize that critical pedagogy in PE must engage with dominant assumptions that define what constitutes a "normal" body and a "healthy" life.

At the same time, fat pedagogy shifts attention away from the pathologization of larger bodies and toward the recognition of bodily diversity and the lived experience of stigma. This approach seeks not merely greater acceptance but a fundamental redesign of educational experiences, whereby the body is no longer understood solely as an object of measurement, regulation, and correction. Its contribution is particularly significant within PE, where public bodily exposure, performance-oriented practices, and comparison-based activities often render bodily hierarchies highly visible (Pausé, 2019). Furthermore, scholarship on weight bias suggests that prejudice against larger bodies is not simply an individual attitude but also a matter of social justice. Nutter *et al.* (2016, 2018) demonstrate that weight bias permeates education, healthcare, employment, and social relationships, while the association of personal worth with body size reproduces broader social inequalities. Consequently, critical pedagogical approaches to body weight are closely aligned with social justice perspectives in education, seeking not only to change attitudes but also to challenge the normative structures that generate exclusion.

4. Recommendations

Despite the growing body of research on weight-related stigma, significant gaps remain. First, there is a limited number of studies focusing specifically on PE and its everyday pedagogical practices. Given the unique characteristics of PE as a subject in which the body is highly visible and frequently evaluated, further investigation is needed into how classroom interactions, assessment methods, and instructional strategies influence the experiences of students with larger bodies.

Moreover, although intersectionality has been widely acknowledged as a valuable theoretical framework, it has not yet been adequately incorporated into empirical research. Future studies should examine how multiple social identities—including gender, race/ethnicity, socioeconomic status, sexuality, and disability—interact with body weight to shape students' educational experiences and opportunities for participation in Physical Education.

Finally, there is a need for more intervention-based and longitudinal research that evaluates the effectiveness of educational reforms aimed at reducing weight stigma. Such research should assess both teacher-training initiatives and curriculum redesign efforts, with particular attention to their long-term impact on student well-being, participation, body image, and perceptions of inclusion. Investigating the implementation and outcomes of critical obesity pedagogy and fat pedagogy in diverse educational contexts would further contribute to the development of evidence-based practices that support equity and social justice in PE.

In conclusion, future research should move beyond documenting the prevalence and consequences of weight stigma and focus increasingly on identifying, implementing, and evaluating pedagogical strategies capable of creating more inclusive, equitable, and supportive learning environments for students of all body sizes.

5. Conclusion

The present literature review demonstrates that body weight and the BMI are not merely biomedical parameters; rather, they are embedded within complex socio-pedagogical processes of categorization, hierarchy formation, and exclusion in educational settings. As a unidimensional measure, BMI fails to capture biological diversity and frequently results in inaccurate classifications, particularly among adolescents and athletic populations.

Weight-related stigma has been consistently associated with lower self-esteem, increased depressive symptoms, body dissatisfaction, and disordered eating behaviors from an early age. Within PE, the school environment may reinforce such stigma through evaluative practices, the public exposure of the body, and normative assumptions regarding "ability" and the "ideal body," thereby contributing to social exclusion and bullying. Furthermore, these experiences are shaped by intersecting factors such as gender, social class, race/ethnicity, sexuality, and disability.

The literature indicates that the reduced participation of students with larger bodies should not be interpreted as an individual choice but rather as the outcome of complex social and psychological processes. In this context, the concept of obligatory body work emerges, referring to the internalization of societal expectations that require individuals to conform to dominant body ideals in order to achieve social acceptance. The role of the teacher is therefore crucial, as pedagogical attitudes and practices can either reproduce stereotypes and exclusionary norms or foster inclusion and equity.

Based on these findings, critical pedagogical approaches advocate for a reconceptualization of PE toward a more inclusive and socially just model that moves beyond practices of bodily surveillance, comparison, and conformity. Within this framework, emphasis shifts from weight control and performance outcomes to participation, enjoyment of movement, and acceptance of bodily diversity. Such an approach aims to reduce weight stigma while promoting positive educational and movement experiences for all students.

From a practical perspective, these findings highlight the need for systematic professional development for PE teachers, the redesign of learning environments to minimize public body exposure and social comparison, and the integration of weight-based bullying into broader intersectional understandings of educational inequality. Through these changes, PE can be transformed from a site where social hierarchies are reproduced into a space characterized by inclusion, support, and pedagogical justice.

Overall, this review concludes that questioning the validity and educational use of BMI and understanding obesity as a multifactorial phenomenon represent not only a scientific reconsideration but also a pedagogical imperative. The transition from a body-control paradigm toward an inclusive pedagogy of Physical Education is essential for creating schools that promote equality, well-being, and positive movement experiences for all students.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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