



Factors affecting student disengagement in mandatory physical education

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Article Info

Article History:

Published: 28 April 2026

Publication Issue:

Volume 3, Issue 4
April-2026

Page Number:

261-267

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Abstract:

Student disengagement in mandatory physical education (PE) continues to be a significant challenge in higher education, affecting students' physical literacy, health behaviors, and their long-term involvement in physical activity. This study examined the factors that lead to disengagement among first-year undergraduate students in mandatory physical education courses at a public university. Data were collected using a structured questionnaire organized into four domains: teacher behavior, curriculum design, social climate, and structural and resource factors, employing a quantitative descriptive research design. The findings indicated that curriculum design was the most significant factor contributing to disengagement, primarily due to repetitive activities and a lack of alignment with student interests. Teacher behavior, social climate, and structural conditions were recognized as significant contributors. The study concludes that reforming the curriculum to prioritize variety and differentiated instruction, along with professional development for teachers that emphasizes autonomy-supportive practices, is the most effective approach to fostering genuine and sustained student engagement in university physical education.

Keywords: physical education, student disengagement, higher education, undergraduate students, mandatory PE

1. Introduction

Physical education (PE) in higher education holds a unique and sometimes contradictory role within the university curriculum. Mandatory physical education programs are widely implemented in tertiary institutions globally to promote physical literacy, healthy behaviors, and lifelong active participation. Accumulating empirical evidence indicates a concerning gap between these aspirational goals and the actual experiences of many undergraduate students. Consistently documented across various educational contexts are low attendance rates, reduced enjoyment, superficial participation, and outright withdrawal from physical education activities (Rikard et al., 2006; Osokina et al., 2020; Lutsenko et al., 2020). Student disengagement is a significant challenge facing PE educators and curriculum designers at the university level today.

Student engagement in physical education is a complex concept that includes behavioral, emotional, and cognitive aspects (Jaakkola et al., 2017; Guo et al., 2023). Behavioral engagement encompasses observable participation, effort, and attendance. Emotional engagement pertains to students' affective responses, including enjoyment, belonging, and interest. Cognitive engagement involves the mental effort invested in learning and skill acquisition (Alcalá & Garijo, 2017). Disengagement occurs when one or more of these dimensions are significantly compromised. Students may be physically present but emotionally detached, or they may comply superficially while exerting minimal cognitive effort. To understand disengagement, it is essential to look beyond mere attendance figures and develop a deeper understanding of students' motivational and psychological states in the physical education environment.

Several theoretical frameworks have been implemented to clarify the mechanisms involved in disengagement. Self-Determination Theory (SDT) claims that human motivation is mainly shaped by three key psychological needs: autonomy, competence, and relatedness (González-Peño et al., 2021; Cheon et al., 2018). When these needs are consistently unmet in the physical education context - such as when instruction is overly controlling, content is seen as irrelevant, or social environments are exclusionary - students are likely to experience amotivation or engage in participation that is solely externally regulated (Jaakkola et al., 2017; Mitchell et al.,

2015). In addition to Self-Determination Theory (SDT), motivational climate theory differentiates between performance-oriented climates, which focus on social comparison and normative ability, and mastery-oriented climates, which prioritize personal improvement and collaborative learning. Research consistently links performance climates to decreased intrinsic motivation and increased disengagement (Jaakkola et al., 2017; Alcalá & Garijo, 2017). Furthermore, Bandura's concept of moral disengagement has been utilized in the physical education context to clarify how students rationalize minimal effort, rule infractions, and antisocial behavior (Hsu & Pan, 2018).

Although there is an increasing amount of research on participation and motivation in physical education, the specific factors contributing to disengagement in higher education settings have not been adequately synthesized. The existing literature predominantly addresses secondary school populations (Rikard et al., 2006; Mitchell et al., 2015; Lodewyk & Pybus, 2013), highlighting a significant gap in our understanding of the distinct contextual dynamics of mandatory university physical education, where students exhibit increased autonomy and more established motivational orientations. University students enter physical education classes with a background of previous experiences, many of which are negative. They also carry increased concerns regarding academic workload, personal identity, and social perception (Osokina et al., 2020; Lutsenko et al., 2020). The characteristics of the university physical education context render it both unique and notably vulnerable to disengagement.

Current research highlights a complex interaction of factors that contribute to this issue. The behavior and interpersonal style of teachers significantly impact students' feelings of psychological safety and motivation (González-Peño et al., 2021; Guo et al., 2023; Marnida et al., 2025). The design of the curriculum, which encompasses a variety of activities, their relevance, and the extent of student choice, significantly influences engagement (Temirbay et al., 2025; Donkor, 2025). Peer dynamics, social climate, and gendered body-image concerns establish environments that can either foster or hinder a sense of belonging (Jaakkola et al., 2017; Lodewyk & Pybus, 2013). Structural factors, including facility quality, class size, and scheduling convenience, influence students' willingness and ability to engage (Yan et al., 2024; Osokina et al., 2020). Ultimately, individual student characteristics, such as perceived competence, previous negative experiences, and intrinsic motivation, influence the way these environmental factors are perceived (Jaakkola et al., 2017; Lutsenko et al., 2020).

The effects of long-term disengagement reach far beyond the physical education classroom. Students who withdraw from mandatory university physical education are less likely to establish regular physical activity habits, gain significant motor skills, or view physical activity as a personally valuable endeavor (Jaakkola et al., 2017; Alcalá & Garijo, 2017). Furthermore, disengagement correlates with greater antisocial behavior, a greater acceptance of cheating, and diminished prosocial conduct in the physical education environment (Hsu & Pan, 2018; Cheon et al., 2018).

This study aims to explore the key factors that lead to student disengagement in mandatory physical education courses at the university level. This research seeks to provide a thorough understanding of the reasons behind disengagement by utilizing established motivational frameworks and synthesizing evidence from various domains, including teacher, curriculum, social, structural, and student levels. The goal is to identify effective pathways for fostering more engaging, inclusive, and developmentally appropriate physical education experiences in higher education.

2. Literature Review

2.1. Engagement and disengagement in PE

Student engagement has become a key focus in educational research, acknowledged as a strong predictor of academic success, psychological health, and lasting behavioral results. In the literature on physical education, engagement is defined as a multidimensional phenomenon that includes three interconnected dimensions: behavioral, emotional, and cognitive (Fredricks et al., 2004, as cited in Guo et al., 2023). Behavioral engagement involves active and observable participation in physical education activities, including attendance, focused behavior, and the effort put forth. Emotional engagement reflects students' feelings towards physical education, encompassing enjoyment, enthusiasm, a sense of belonging, and identification with physical activity as a valued endeavor. Cognitive engagement refers to the intentional mental effort that students apply to acquiring skills and understanding tactics in the context of physical education (Jaakkola et al., 2017; Alcalá & Garijo, 2017).

Disengagement, in contrast, signifies the decline or lack of one or more of these dimensions. The phenomenon presents along a spectrum, ranging from mild behaviors like passive compliance, minimal effort, and emotional indifference to more severe manifestations such as chronic absenteeism, overt refusal to engage, and intentional misconduct (Rikard et al., 2006; Hsu & Pan, 2018). Disengagement should not be equated with physical absence; a student can be physically present in a PE class while still being emotionally detached and cognitively uninvolved, a situation referred to by Osokina et al. (2020) as “passive attendance.” This distinction is especially important in mandatory physical education settings, where external pressure may ensure participation but can diminish genuine motivation. Lutsenko et al. (2020) observe that in higher education environments, where academic pressures have increased and students’ self-efficacy and identity are more solidified, disengagement often becomes deeply rooted and resistant to superficial pedagogical measures.

2.2. Theoretical frameworks

Self-Determination Theory

Self-Determination Theory (SDT), first introduced by Deci and Ryan and widely utilized in physical education research, serves as a key theoretical framework for comprehending motivational disengagement. Self-Determination Theory (SDT) suggests that individuals have an innate drive for growth and integration, which relies on the fulfillment of three fundamental psychological needs: autonomy, defined as the experience of making choices and endorsing one’s actions; competence, which refers to the feeling of effectiveness and mastery; and relatedness, the sense of meaningful connection with others (González-Peño et al., 2021; Cheon et al., 2018; Mitchell et al., 2015). When these needs are consistently neglected in the physical education environment - due to dominated instruction, repetitive and unchallenging content, or socially isolating peer dynamics - students gradually transition from intrinsic motivation to external regulation and, eventually, to amotivation (Jaakkola et al., 2017; Guo et al., 2023). Amotivation, which signifies a total lack of perceived reasons to participate, is commonly linked to the most extreme forms of disengagement, such as withdrawal, minimal effort, and antisocial behavior (Cheon et al., 2018).

2.3. Teacher behavior and interpersonal style

Teacher behavior is primarily significant among the factors identified in the literature on PE disengagement. Research indicates that teachers’ interpersonal style, particularly their use of need-supportive versus controlling approaches, significantly impacts students’ motivational outcomes. González-Peño et al. (2021) discovered that teacher behaviors that support autonomy were significantly linked to increased levels of student behavioral and emotional engagement. In contrast, controlling instructional styles were associated with disaffection and passivity among students. In a systematic review, Guo et al. (2023) examined the relationship between perceived teacher support and student engagement in physical education. They concluded that, regardless of cultural and institutional differences, students who viewed their teachers as warm, responsive, and supportive of their autonomy consistently reported higher levels of engagement across all three dimensions.

Mohammed et al. (2024) expanded these findings to high school settings, showing that teacher attitudes toward physical education - such as their enthusiasm for the subject, the quality of feedback provided, and their responsiveness to individual student needs - significantly predicted both motivational engagement and lesson participation. The role of autonomy support received significant empirical attention. Cheon et al. (2018) found that a structured teacher training intervention aimed at enhancing need-supportive behaviors resulted in notable reductions in student antisocial conduct and increases in prosocial engagement. Marnida et al. (2025) have recently confirmed significant positive relationships between teachers’ interpersonal behavior and students’ engagement levels, as well as their internalization of sport values. This highlights the relational aspect of physical education pedagogy as a crucial factor in preventing disengagement.

2.4. Curriculum design and instructional approach

Curriculum-level factors constitute a significant domain influencing student disengagement. Rikard et al. (2006) conducted a thorough investigation into high school students’ attitudes toward physical education. They identified curricular monotony, which includes repetitive activity selection, limited skill differentiation, and a lack of student choice, as a key factor contributing to negative attitudes and decreased participation. Students frequently expressed that the physical education curriculum did not align with their personal interests or address their diverse fitness and skill levels, leading to a general sense of irrelevance and disengagement.

Subsequent research across various national contexts has confirmed these findings. Osokina et al. (2020) noted that students in environments where physical education curricula were limited to traditional competitive sports demonstrated considerably lower motivation and expressed feelings of exclusion from meaningful participation. Cortés (2023) found that a misalignment between curriculum content and student preferences was a significant predictor of low motivation in physical education classes. Temirbay et al. (2025) showed that implementing differentiated instructional strategies, which involve adjusting task difficulty and activity choices to match individual student profiles, led to notable enhancements in university students' engagement levels. Pedagogical models that prioritize student agency, such as Teaching Games for Understanding (TGfU), have demonstrated effectiveness. Alcalá and Garijo (2017) found that TGfU-based instruction notably improved students' autonomous motivation and task orientation compared to traditional direct instruction methods. Donkor (2025), utilizing qualitative data from senior high school students in Ghana, highlighted that the lack of meaningful choice and the enforcement of activities viewed as physically or socially threatening were key factors contributing to students' negative experiences in physical education.

2.5. Social climate, peer dynamics, and gender

The social ecology of physical education classes significantly impacts students' sense of belonging and their willingness to participate. Peer relationships in physical education, marked by different levels of inclusion, competition, comparison, and exclusion, significantly influence emotional engagement beyond what curricular and instructional factors can account for. Jaakkola et al. (2017) found that students' perceptions of peer relationships and social belonging in physical education significantly predicted their enjoyment and intentions to continue participating. Mitchell et al. (2015) identified that negative peer comparisons and experiences of social exclusion were significant barriers to engagement for adolescent girls, leading to avoidance behaviors and emotional withdrawal.

The relationship between gender and body image is a significant area of concern. Lodewyk and Pybus (2013) identified body-image-related self-consciousness as a significant factor influencing girls' decisions to withdraw from or cease participation in optional physical education. This finding is supported by Lutsenko et al. (2020), who observed that female university students expressed a higher vulnerability to social comparison pressures in coeducational physical education settings. Hsu and Pan (2018) demonstrated that negative social climates, characterized by exclusion and interpersonal hostility, are linked to increased moral disengagement. This suggests a bidirectional relationship between social climate and behavioral disengagement.

2.6. Structural and resource factors

In addition to interpersonal and curricular aspects, structural and organizational factors significantly influence student engagement in physical education. Rikard et al. (2006) identified persistent structural barriers to engagement, including inconvenient scheduling, overcrowded classes, and inadequate facilities. Osokina et al. (2020) found that inadequate physical learning environments, characterized by substandard equipment and limited space, diminished students' motivation and sense of competence. Yan et al. (2024) investigated primary school physical education in China, emphasizing the interaction between class size and facility quality with instructional modality in influencing students' participation experiences, which carries implications for policy-level intervention. Lutsenko et al. (2020) emphasized that in higher education, institutional scheduling practices that assign physical education to inconvenient time slots implicitly convey to students that physical activity is a secondary academic priority, which further diminishes motivational engagement.

3. Case and Methodology

This study employed a quantitative descriptive research design to examine the factors influencing student disengagement in mandatory physical education courses at the university level. The study involved 100 undergraduate students who were enrolled in required physical education courses at a public university. Participants were chosen through convenience sampling, representing students from various academic faculties and year levels. The sample included male and female students aged 18 to 19 years.

Data were collected through a structured self-administered questionnaire, which was developed using established scales from the literature on physical education motivation and engagement. The instrument consisted of four thematic sections that align with the key domains identified in the literature: teacher behavior, curriculum design, social climate, and structural conditions. Responses were evaluated using a five-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement. The content validity was confirmed through a

review conducted by three experienced faculty members in physical education before the administration took place.

The collected data were analyzed using descriptive statistics, which included frequency distributions, means, and standard deviations, calculated with SPSS version 26. The mean scores were utilized to rank and evaluate the relative importance of each disengagement factor within the identified domains.

4. Results & Findings

This section illustrates the descriptive statistical findings derived from the survey responses of 100 undergraduate students, aged 18 to 19 years, who are enrolled in mandatory physical education courses. The results are categorized based on the four main domains of disengagement examined: teacher behavior, curriculum design, social climate, and structural and resource factors. Descriptive statistics, including means (M) and standard deviations (SD), are provided for each domain and its constituent items. Higher mean scores reflect a greater perceived contribution to disengagement.

Table 1 summarizes the mean scores across the four domains in descending order of perceived contribution to disengagement.

Table 1. Mean Scores of Disengagement (N = 100)

Domain	M	SD
Curriculum design and content	3.96	0.74
Teacher Behavior	3.72	0.81
Social climate and peer dynamics	3.48	0.88
Structural and resource factors	3.31	0.92

Teacher Behavior

The findings regarding teacher behavior indicated that respondents perceived a moderate to high contribution to disengagement. The overall domain yielded a mean score of $M = 3.72$ ($SD = 0.81$). The item rated highest in this domain was “My PE teacher uses a controlling and inflexible teaching style” ($M = 3.89$, $SD = 0.76$), followed by “My teacher provides insufficient individualized feedback” ($M = 3.74$, $SD = 0.83$). The statement “My teacher rarely encourages student input or choice in activities” received a mean score of $M = 3.52$ with a standard deviation of $SD = 0.91$. The results indicate that students view teacher interpersonal style and restricted autonomy support as significant factors in their experiences of disengagement.

Curriculum design and content

The curriculum design domain achieved the highest overall mean score among all four domains ($M = 3.96$, $SD = 0.74$), suggesting that students recognized curricular factors as the primary contributors to disengagement. The statement “PE activities are repetitive and lack variety” received the highest rating in the study, with a mean of 4.21 and a standard deviation of 0.69. The statement “The content does not reflect my personal interests or preferences” received a mean score of 4.03 ($SD = 0.72$), whereas “Activities are not appropriately matched to my skill or fitness level” scored a mean of 3.65 ($SD = 0.80$).

Social climate and peer dynamics

The social climate domain showed a moderate overall mean of $M = 3.48$ ($SD = 0.88$). Students expressed the highest agreement with the statement “I feel uncomfortable being compared to peers with higher physical ability” ($M = 3.71$, $SD = 0.94$). This was closely followed by the statement “I sometimes feel excluded or overlooked during PE activities” ($M = 3.53$, $SD = 0.86$). The concern related to body image, as indicated by the statement “I feel self-conscious about my appearance during PE class,” results in a mean score of $M = 3.21$ ($SD = 0.97$). The findings align with those of Mitchell et al. (2015) and Lodewyk and Pybus (2013), who noted that peer comparison and social self-consciousness serve as significant emotional barriers to engagement, especially for younger students.

Structural and resource factors

The overall mean for structural factors was the lowest ($M = 3.31$, $SD = 0.92$), indicating that several items require further consideration. The statement “PE class sizes are too large for meaningful participation” received a mean score of 3.58 with a standard deviation of 0.88, whereas “Facilities and equipment are inadequate for effective learning” obtained a mean score of 3.42 and a standard deviation of 0.95. The scheduling inconvenience, indicated by the statement “PE classes are scheduled at inconvenient times that affect my participation,” yielded a mean score of $M = 2.94$ ($SD = 1.03$), marking it as the lowest-rated item in the entire instrument. The results partially

support the findings of Osokina et al. (2020) and Yan et al. (2024). However, the lower mean scores indicate that structural conditions, while relevant, were viewed as less immediately impactful compared to curricular and teacher-related factors within this age group.

Curriculum design was identified as the primary factor contributing to disengagement, followed by teacher behavior, social climate, and structural conditions in that order. The findings suggest that students' disengagement is influenced by a combination of motivational, pedagogical, and environmental factors. Among these, curricular relevance and instructional approach are the most effective areas for intervention.

5. Discussion

This study's findings indicate a consistent pattern of disengagement across four related domains, with curriculum design identified as the most significant factor by first-year undergraduate students ($M = 3.96$). This result supports existing literature that identifies curricular monotony, insufficient content variety, and misalignment with student interests as key motivational barriers in mandatory physical education settings (Rikard et al., 2006; Temirbay et al., 2025; Osokina et al., 2020). When students view physical education content as repetitive and not aligned with their personal interests, their fundamental psychological need for autonomy, as described in Self-Determination Theory, is consistently unfulfilled. This leads to a gradual transition towards external regulation and a lack of motivation (González-Peño et al., 2021; Jaakkola et al., 2017).

Teacher behavior was ranked as the second most influential domain ($M = 3.72$). The most significant contributors at the item level were identified as a controlling instructional style and insufficient individualized feedback. The findings are consistent with the research conducted by González-Peño et al. (2021), Guo et al. (2023), and Cheon et al. (2018), all of which identified significant associations between need-thwarting teacher behaviors and diminished student engagement. The significance of autonomy-related concerns - specifically, students feeling that their input and choices are seldom sought - indicates that instructional control is a key area for professional development interventions, such as the Autonomy-Supportive Instructional Program (ASIP) (Cheon et al., 2018). Social climate factors ranked third ($M = 3.48$) and surpassed the scale midpoint across all items, indicating that peer comparison and social exclusion are significant emotional barriers for this age group (Jaakkola et al., 2017; Mitchell et al., 2015). Although structural conditions received the lowest rating ($M = 3.31$), they highlight that class size and facility adequacy are significant institutional issues that warrant attention at the policy level (Yan et al., 2024; Osokina et al., 2020).

The results indicate that disengagement in university physical education is not due to a single factor; instead, it arises from the combined influence of motivational, pedagogical, social, and environmental conditions. Interventions aimed at diversifying the curriculum and enhancing teacher autonomy seem to provide the most immediate opportunity for significant change.

6. Conclusion

This study examined the factors that lead to student disengagement in mandatory physical education among first-year undergraduate students, using a descriptive quantitative approach across four main areas. The findings consistently identified curriculum design as the primary perceived contributor to disengagement, followed by teacher behavior, social climate, and structural factors in that order. The mean scores across all domains surpassed the scale midpoint, confirming that disengagement in university physical education is a widespread and complex issue influenced by motivational, instructional, social, and organizational factors.

The findings have significant implications for the design of PE programs and the professional development of teachers at the university level. Curriculum reform that emphasizes a variety of activities, student choice, and skill-appropriate differentiation aligns with pedagogical models like Teaching Games for Understanding and differentiated instruction. This approach is identified as the most urgent intervention priority. Simultaneously, investing in teacher training programs that promote autonomy-supportive interpersonal styles and responsive feedback practices can significantly enhance students' sense of competence and relatedness in the physical education environment.

This study has certain limitations. The use of a convenience sample from a single institution limits the generalizability of the findings, and the cross-sectional descriptive design prevents causal inference. Future research that utilizes longitudinal, mixed-methods, or experimental designs in various institutional contexts would significantly enhance the evidence base. This study provides a well-founded, evidence-based understanding of the complex aspects of physical education disengagement in higher education. It highlights the

pressing need to develop more inclusive, student-focused, and motivationally supportive physical education environments at the university level.

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