

## Factors Influencing Middle School Students' Learning Motivation in Physical Education: Literature Review

Yudi Ahmad Kamaludin<sup>1\*</sup>, Iis Marwan<sup>1</sup>, Dicky Tri Juniar<sup>1</sup>

<sup>1</sup>*Magister Program of Sports Education, School of Postgraduates Studies*

*Universitas Siliwangi, Tasikmalaya, Indonesia*

\*email corresponding author: [248105111017@student.unsil.ac.id](mailto:248105111017@student.unsil.ac.id)

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### Abstract

Student motivation is a key determinant of engagement and learning outcomes in junior high school Physical Education (PE), yet evidence indicates a decline in motivation during early adolescence. This study aimed to synthesize empirical findings on factors influencing students' motivation in PE learning. A systematic literature review was conducted on 15 studies published between 2020 and 2025 and indexed in Scopus, Google Scholar, ERIC, and DOAJ. Data were analyzed using thematic analysis. The results reveal that student motivation is influenced by three main domains: pedagogical, internal psychological, and social factors. Pedagogical factors particularly teacher autonomy support, activity variety, and mastery-oriented learning climates emerged as the most influential determinants of autonomous motivation and engagement. Internal psychological factors, such as perceived competence and task value, acted as key mediators, while social support from peers and families strengthened motivation indirectly. This review highlights the importance of student-centered instructional practices in enhancing motivation in junior high school Physical Education and suggests the need for longitudinal and intervention-based research, especially within the Indonesian context.

Keywords: Motivation, Students, Middle School, Learning, Physical Education

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### 1. INTRODUCTION

Physical Education (PE) is a critical foundation for promoting lifelong physical activity, particularly during adolescence when sedentary behavior increases sharply (Hanifah & Nasrulloh, 2023). Motivation plays a central role in sustaining students' engagement and health outcomes during the transition to junior high school, a period marked by declining participation and increased lifestyle pressures (Bailey et al., 2015); (Ryan & Deci, 2000).

However, many adolescents perceive PE as anxiety-inducing or uninteresting, reflecting a mismatch between their psychological needs and the instructional environment (Ntoumanis M. S., 2005). Developmental factors such as fluctuating self-confidence and heightened peer awareness (Eccles & Wigfield, 2020) further complicate their engagement. As a result, understanding the mechanisms that drive students' willingness to participate in PE remains essential.

Recent research identifies pedagogical, social, and psychological determinants of PE motivation. Autonomy-supportive teaching and choice-rich instructional models enhance autonomous motivation and engagement (Novák et al., 2024);(Botella, 2021). Social support from family and peers also protects against disengagement (Heredia-León, 2023)(Liu, 2024). Internal factors such as perceived competence and task value consistently mediate intrinsic motivation (Maněnová et al., 2022).

Despite extensive international evidence, Indonesian studies remain limited, largely descriptive, and rarely examine causal or developmental aspects of motivation (Nasution et al., 2024). This gap leaves educators without a context-specific synthesis that reflects local pedagogical and cultural realities.

Accordingly, this review addresses the question: What factors influence junior high school students' motivation in Physical Education? By synthesizing empirical studies published between 2020–2025, this study aims to map key motivational determinants and offer evidence-based recommendations for developing culturally relevant instructional strategies.

## 2. METHOD

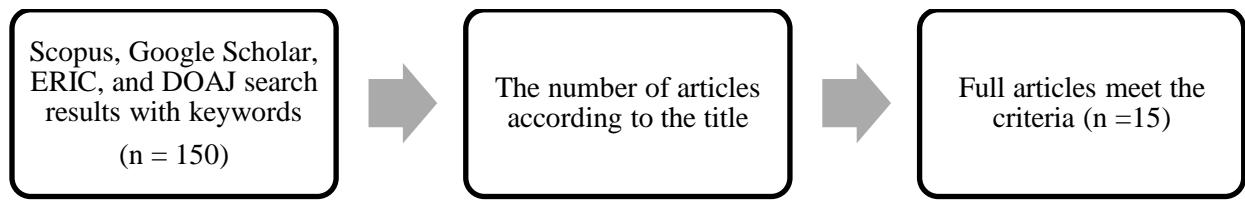
This study employed a Systematic Literature Review (SLR) approach to systematically identify, analyze, and integrate empirical research examining factors that influence learning motivation among middle school students in Physical Education. The use of the SLR approach was intended to ensure methodological rigor through a structured, transparent, and reproducible review process, while minimizing potential selection bias.

The literature search was carried out using four academic databases, namely Scopus, Google Scholar, ERIC, and DOAJ. A combination of relevant keywords was applied, including “physical education motivation,” “autonomy support in physical education,” “student engagement in PE,” and “learning motivation.” The search was limited to peer-reviewed journal articles published between 2020 and 2025.

Based on the predefined search criteria, a total of 150 articles were initially identified and imported into Mendeley. Following a screening and selection process, 15 studies were deemed eligible and included in the final review. Several articles were excluded due to various limitations, such as restricted access to repository-only publications or papers presented in international journals or conference proceedings that were not fully accessible.

**Figure 1**

Diagram illustrating the literature review



### 3. RESULTS AND DISCUSSIONS

Based on the established inclusion criteria, fifteen studies were ultimately retained for synthesis. As presented in Table 1, these studies varied in methodological approach, predominantly using quantitative surveys, alongside SEM-based analyses, experimental methods, and systematic review or meta-analytic designs.

**Table 1.**

Literature Summary Matrix (Junior High School Students)

Authors (Year)	Title	Population	Method	Key Results
(Botella, 2021)	Flipped Learning to Improve Students' Motivation in Physical Education	Junior high school students	Experimental	Flipped Learning increased intrinsic motivation, self-efficacy, and engagement.
(Mohamad & Cahyani, 2021)	Motivation in physical education (PE) learning through online system	Indonesian junior high school students	Survey	Motivation decreased during online PE due to limited interaction.
(Huang, 2025)	The impact of learning motivation of academic performance among low-income college students	Middle school students	Survey	Household income influenced learning motivation and physical activity opportunities.
(Chen, 2020)	Motivational	Secondary	SEM	A task-

	Climate, Need Satisfaction, and Physical Activity	school students (China)		oriented motivational climate increased need satisfaction and MVPA participation.
(Heredia-León, 2023)	Motivational Profiles in Physical Education	Junior high school students	Survey	Adaptive profiles showed higher engagement and lower amotivation.
(Leyton-rom & Juan, 2020)	Supporting Autonomy to Improve Intention to Be Physically Active	Junior high school students	SEM	Autonomy support increased motivation and PA intention.
(Miao et al., 2024)	Variety-Supportive Teaching and Engagement in Physical Education	Middle school students	Survey	Activity variety enhanced engagement through autonomous motivation.
(Nasution et al., 2024)	Student Motivation in Grade VII Physical Education Learning	Grade VII students	Survey	Motivation influenced by teaching methods and classroom atmosphere.
(Pratama et al., 2025)	Psychological Factors and Learning Outcomes in Physical Education	Indonesian middle school students	Survey	Intrinsic motivation positively affected learning outcomes.
(Xiaojing wu & Gai, 2021)	Perceived Motivational Climate and Stages of Exercise	Junior high school students	SEM	Motivational climate influenced exercise behavior

Behavior Change stages.				
(Kalajas-Tilga, 2020)	Teacher Autonomy Support and Physical Activity in PE	Lower secondary students	Survey	Autonomy-supportive teaching increased MVPA.
(Vasconcellos, 2023)	Body-related concerns and participation in physical education among adolescent students	Secondary students	Meta-analysis	Strong evidence for autonomy support improving motivation.
(Garcia-Ceberino, 2022)	Determinant Factors of Achievement Motivation in School Physical Education	Secondary students	Survey	Teacher support predicted achievement motivation.
Valero-Valenzuela et al. (2021)	Motivation and Physical Activity Enjoyment in PE	Lower secondary students	Survey	Autonomous motivation increased enjoyment.
Kuśnierz et al. (2020)	Gender Differences and Motivation in Physical Education	Lower secondary students	Survey	Gender differences influenced motivational orientation.

Based on the synthesis of 15 empirical studies involving junior high school students, the findings indicate that students' motivation in Physical Education (PE) is shaped by three interrelated domains: pedagogical factors, internal psychological factors, and social factors. This pattern aligns with motivational frameworks emphasizing the interaction between learning environments and individual needs (Ryan & Deci, 2000). Among these domains, pedagogical factors emerged as the most consistent and influential determinants of student motivation.

Pedagogical variables including teacher autonomy support, activity choice, instructional

variety, and mastery-oriented motivational climates were strongly associated with higher levels of autonomous motivation, engagement, and physical activity participation. Studies applying experimental and structural equation modeling designs consistently reported that autonomy-supportive instruction facilitates the fulfillment of students' basic psychological needs subsequently contributes to higher levels of intrinsic motivation. (Ntoumanis M. S., 2005); (Chen, 2020). Furthermore, student-centered instructional models such as Flipped Learning and Sport Education demonstrated significant positive effects on self-efficacy, responsibility, and engagement, supporting previous evidence that innovative pedagogical approaches are particularly effective during early adolescence (Botella, 2021) ;(Tendinha et al., 2021).

Internal psychological factors also played a central role in explaining motivational outcomes. Across studies, perceived competence, intrinsic motivation, task value, and self-concept consistently functioned as mediating mechanisms between instructional practices and learning outcomes. These findings are consistent with Self-Determination Theory and Expectancy–Value Theory, which posit that students are more motivated when they perceive themselves as capable and view learning activities as meaningful (Eccles, 2020). Empirical evidence showed that students with higher perceived competence and intrinsic interest exhibited greater enjoyment, persistence, and achievement in PE, whereas declines in these perceptions were associated with reduced participation during early adolescence (Heredia-León, 2023)

Social factors, including peer support, family environment, and classroom social climate, contributed indirectly to students' motivation. Although less frequently examined as primary predictors, these factors strengthened engagement by supporting psychological need satisfaction and reducing anxiety. Prior studies suggest that positive peer interactions and supportive family contexts enhance students' enjoyment and willingness to participate in PE, particularly when combined with autonomy-supportive teaching practices ( (Ntoumanis M. S., 2005); (Chen, 2020) ; (Nasution et al., 2024). Overall, the results indicate that motivation in junior high school PE emerges from the alignment between instructional quality, students' psychological needs, and supportive social contexts.

Beyond the identification of these three domains, the reviewed studies collectively indicate that pedagogical factors play a foundational role in shaping the influence of psychological and social variables. Teaching practices that emphasize autonomy support, meaningful learning tasks, and mastery-oriented climates appear to create conditions in which internal psychological resources can develop optimally. Without such pedagogical alignment, psychological and social supports tend to exert weaker or inconsistent effects on students' motivation in Physical Education.

Furthermore, the interaction between pedagogical practices and students' internal psychological characteristics highlights the dynamic nature of motivation during early adolescence. Students do not respond uniformly to instructional strategies; rather, their motivational responses are mediated by perceived competence, prior experiences, and personal expectations. This explains why similar teaching approaches may yield different motivational outcomes across classrooms and contexts. Consequently, motivation should be understood not as a fixed trait, but as a malleable construct that evolves through continuous interaction between learners and their learning environments.

From a methodological perspective, studies employing experimental and structural equation modeling designs provide stronger evidence regarding causal relationships among

pedagogical, psychological, and motivational variables. These studies consistently demonstrate that autonomy-supportive instruction influences motivation both directly and indirectly through psychological need satisfaction. In contrast, descriptive survey studies, while valuable for mapping motivational tendencies, offer limited insight into underlying mechanisms. This disparity underscores the importance of methodological diversity in advancing motivation research within Physical Education.

#### 4. DISCUSSIONS

The results of this literature review indicate that motivation in junior high school Physical Education is a complex, multidimensional phenomenon that is strongly shaped by teaching practices. In accordance with Self-Determination Theory, autonomy-supportive instruction, mastery-focused learning environments, and meaningful learning experiences were linked to the fulfillment of students' basic psychological needs autonomy, competence, and relatedness which in turn fostered autonomous motivation and active engagement. (Ryan & Deci, 2000); (Vasconcellos D. P., 2020). These results reinforce the central role of teachers as key agents in shaping motivational processes during the critical developmental phase of early adolescence.

The predominance of pedagogical factors suggests that instructional design may exert a greater influence on motivation than relatively stable personal characteristics. Innovative instructional models such as Flipped Learning and Sport Education appear particularly effective in addressing adolescents' need for autonomy and competence by offering active roles, meaningful tasks, and collaborative learning environments. This supports earlier research indicating that student-centered pedagogy can counteract motivational decline commonly observed during the transition to secondary education (Ntoumanis M. S., 2005).

Internal psychological factors were found to operate as key mechanisms linking teaching practices to student outcomes. Perceived competence and self-concept consistently mediated motivation and learning achievement, underscoring the importance of inclusive, success-oriented learning environments. From a theoretical perspective, this finding aligns with Expectancy–Value Theory, which emphasizes that students' motivation is driven by beliefs about their competence and the value they attach to learning task (Eccles, 2020). Without adequate support for competence development, students are more likely to experience amotivation and disengagement, particularly during adolescence when self-evaluations are highly sensitive.

Although social factors were less dominant, their contextual role remains significant. Support from peers and families reinforced motivation when aligned with autonomy-supportive pedagogical practices, highlighting the interactive nature of motivational development. Previous research has shown that social support enhances motivation indirectly by fostering positive emotions and reducing anxiety, thereby facilitating sustained participation in physical activity (Chatzisarantis, 2009) (Zhang, 2025).

Despite the robustness of international evidence, this review identifies a notable gap in research conducted within the Indonesian context. Existing local studies are largely descriptive and rarely employ longitudinal or intervention-based designs capable of capturing motivational dynamics over time. As motivation is known to fluctuate throughout adolescence (Eccles, 2020). future research should prioritize longitudinal and experimental approaches to examine how pedagogical innovations influence motivational trajectories in Indonesian junior high school Physical Education.

The findings of this review further suggest that pedagogical quality may serve as a primary leverage point for intervention in junior high school Physical Education. While individual differences and social contexts undoubtedly influence motivation, instructional practices remain the most adaptable and controllable element within school settings. This reinforces the argument that teacher professional competence is central to sustaining student motivation, particularly during early adolescence when motivational vulnerability is heightened.

In line with Self-Determination Theory, autonomy-supportive teaching practices facilitate students' experiences of autonomy, competence, and relatedness, thereby promoting autonomous forms of motivation. However, the present synthesis also indicates that autonomy support alone is insufficient if not accompanied by structured guidance and appropriate task design. Students with lower motor competence may require additional scaffolding to prevent feelings of incompetence and anxiety. This highlights the importance of balancing autonomy with structure, rather than positioning them as opposing pedagogical principles.

When interpreted through the lens of Expectancy–Value Theory, the reviewed findings emphasize the role of task value and competence beliefs in sustaining motivation. Students are more likely to engage in Physical Education when they perceive learning activities as relevant, enjoyable, and aligned with their personal goals. Therefore, pedagogical strategies that contextualize activities within students lived experiences may be particularly effective in enhancing motivational outcomes.

These considerations highlight the importance of adopting a holistic approach to motivation in Physical Education. Motivation emerges not from isolated instructional techniques, but from the alignment between pedagogical quality, psychological need support, and social context. When these elements are coherently integrated, students are more likely to develop positive attitudes toward Physical Education and sustained engagement in physical activity beyond the school environment.

In this regard, Physical Education should be positioned not merely as a subject aimed at physical skill acquisition, but as an educational space that supports students' holistic development. When motivation is nurtured through supportive pedagogy, students are more likely to internalize positive values related to physical activity, self-regulation, and lifelong health behaviors. This reinforces the argument that motivational quality, rather than mere participation, should be a primary indicator of successful Physical Education programs.

Furthermore, the synthesis of findings underscores the importance of contextual sensitivity in the implementation of pedagogical innovations. Instructional models such as Flipped Learning and Sport Education cannot be applied uniformly across contexts without consideration of students' readiness, school culture, and available resources. Teachers are therefore required to exercise pedagogical judgment in adapting these models to meet diverse student needs, ensuring that autonomy support is accompanied by clear structure and achievable challenges.

The present review also highlights the necessity of strengthening teacher professional development in relation to motivational pedagogy. Teachers' understanding of motivational theories and their practical application in Physical Education contexts plays a critical role in shaping learning environments that are both engaging and inclusive. Without adequate training, even well-designed curricula may fail to translate into meaningful motivational experiences for

students.

Taken together, these findings suggest that efforts to enhance motivation in junior high school Physical Education should be approached systematically rather than through isolated instructional changes. Sustainable motivational outcomes are more likely to be achieved when pedagogical practices, assessment systems, and school-level policies are aligned with principles that support students' psychological needs and developmental characteristics.

Although this review provides a comprehensive synthesis of recent empirical studies, several limitations should be acknowledged. First, the review was limited to articles published between 2020 and 2025, which may exclude earlier foundational studies relevant to motivational development in Physical Education. Second, variations in research design, measurement instruments, and cultural contexts across the included studies may limit the generalizability of the findings. Finally, the reliance on published studies may introduce publication bias, as studies with non-significant findings are less likely to be reported. These limitations should be considered when interpreting the results and point to directions for future research.

## 5. CONCLUSIONS

The studies concludes that motivation in junior high school Physical Education is shaped by the interaction of pedagogical, psychological, and social factors. Among these, pedagogical practices particularly autonomy-supportive teaching, instructional variety, and mastery-oriented learning climates consistently emerge as the most influential determinants of students' autonomous motivation, engagement, and physical activity participation. These findings highlight the central role of instructional quality in sustaining student motivation during early adolescence.

Internal psychological factors, such as perceived competence, task value, and self-concept, function as key mechanisms linking teaching practices to motivational and learning outcomes. When students perceive PE activities as meaningful and aligned with their abilities, they demonstrate higher enjoyment, persistence, and achievement. Social support from peers and families further reinforces motivation by supporting psychological need satisfaction, although its influence is largely indirect and context-dependent.

Despite substantial international evidence, this review identifies a clear gap in Indonesian-focused research, particularly regarding longitudinal and intervention-based studies. Future research should prioritize context-sensitive designs to examine motivational changes over time and to evaluate the effectiveness of pedagogical innovations in Indonesian Physical Education settings. Overall, this study provides a concise synthesis that can inform the development of theoretically grounded and contextually relevant strategies to enhance student motivation in junior high school Physical Education.

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