COMPETITOR:
JURNAL PENDIDIKAN KEPELATIHAN OLAHRAGA
e-ISSN: 2657-0734 & p-ISSN: 2085-5389 ‖ Volume 18, Number 1, 2026 ‖ P.1208-1219

The Motivation of Eleventh Grade Students Participating In Physical Education Classes

Anang Suryaman[1A-E*], Buyung Kusumawardhana[2A-D], Agus Wiyanto[3A-D]

[1,2,3]Universitas PGRI Semarang, Jawa Tengah, Indonesia

anangsuryaman21@gmail.com[1*], buyungkusumawardhana@upgris.ac.id[2], aguswiyanto7@gmail.com[3]

ABSTRACT

This study aims to analyze the motivation of eleventh-grade female students in participating in Physical Education, Sports, and Health (PJOK) classes at SMA Negeri 10 Semarang. The research employed a quantitative descriptive design to systematically examine students' attitudes, desire, perseverance, and perceived external encouragement. The population consisted of 187 female students, and 72 respondents were selected through random sampling from classes XI.1, XI.2, XI.5, and XI.7 using the Slovin formula (10% margin of error). Data were collected using a 26-item Likert-scale questionnaire that demonstrated high reliability (Cronbach's Alpha = 0.951). Data were analyzed using SPSS version 27 to obtain descriptive statistics (mean and standard deviation) and categorical distribution based on standard deviation criteria. The findings indicate that the overall mean motivation score was 78 (SD = 17), with 72.2% of students categorized as having moderate motivation and 27.8% high motivation, with no students in the low category. The perseverance aspect showed the highest level (66.7% high), followed by attitude (45.8% high) and desire (41.7% high). Meanwhile, external encouragement from teachers, peers, and family was predominantly moderate (73.6%), with 15.3% high and 11.1% low. Conceptually, these findings align with Self-Determination Theory, highlighting the stronger influence of internal factors compared to external support. The study emphasizes the importance of autonomy-supportive teaching strategies and inclusive sports opportunities to enhance student engagement in PJOK.

ARTICLE HISTORY
Received: 2026/02/17
Accepted: 2026/02/23
Published: 2026/02/25

KEYWORDS
Motivation;
Physical Education;
Female Students;
Perseverance;
Self-Determination Theory.

AUTHORS' CONTRIBUTION
A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

Cites this Article : Suryaman, A.; Kusumawardhana, B.; Wiyanto, A. (2026). The Motivation of Eleventh Grade Students Participating In Physical Education Classes. **Competitor: Jurnal Pendidikan Kepelatihan Olahraga**. 18 (1), p.0000-0000

INTRODUCTION

Physical activity is a key foundation for maintaining an individual's quality of life, both physically and mentally. Numerous studies over the past decade have shown that active participation in physical activity contributes to improved physical fitness, emotional regulation, a strengthened immune system, and the prevention of non-communicable diseases (Guthold et al., 2020; WHO, 2022; Lubans et al., 2016). In the educational context, Physical Education, Sports, and Health (PJOK) has a strategic mandate to internalize an active lifestyle starting in secondary school (Fadila et al., 2022;

Armidianta et al., 2022). PJOK focuses not only on developing physical capacity but also on developing students' cognitive, social, and affective aspects in an integrated manner (Nuraini et al., 2024; Bailey et al., 2019).

However, global reports indicate a declining trend in physical activity among adolescents, particularly girls (Guthold et al., 2020). In Indonesia, several national studies indicate that student motivation in participating in Physical Education (PJOK) learning remains fluctuating and tends to decline at the high school level (Maulana et al., 2021; Syofian & Gazali, 2021). Learning motivation is a crucial determinant of educational success, as it serves as a driving force, guide, and controller of learning behavior (Ryan & Deci, 2020; Yogi Fernando et al., 2024). In PJOK learning, motivation is divided into intrinsic and extrinsic, both of which are influenced by personal, social, and pedagogical factors (Fikri & Kunci, 2025; Ntoumanis et al., 2017).

The phenomenon of low motivation among eleventh-grade female students in participating in PJOK is a crucial issue, especially during the late adolescent developmental phase, which is characterized by the search for self-identity and sensitivity to body image and social norms (Anaktototy & Rumahlewang, 2020). Several studies have found that female students often exhibit a tendency to avoid physical activity due to negative perceptions of exercise, concerns about sun exposure, or a lack of self-confidence (P et al., 2023; Ramadhan et al., 2025). This situation has the potential to hinder the goal of the Physical Education (PJOK) curriculum to develop a healthy and continuously active generation.

Therefore, the main research question is: what are the levels and factors influencing the motivation of eleventh-grade female students in participating in Physical Education (PJOK) learning at SMA Negeri 10 Semarang, and what are the characteristics of this motivation from an intrinsic and extrinsic perspective.

Conceptually, Self-Determination Theory (SDT) explains that student motivation is influenced by the fulfillment of basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2020). In the context of physical education, teacher support for student autonomy has been shown to increase intrinsic motivation and active participation (Ntoumanis et al., 2017; Vasconcellos et al., 2020). Longitudinal research shows that a supportive learning climate contributes to increased student engagement and sustained physical activity (Haerens et al., 2018).

Empirically, a recent Scopus study confirmed that perceived physical competence significantly correlates with motivation to participate in physical education (Sánchez-Oliva et al., 2017; Gómez-López et al., 2021). Research in Southeast Asian contexts also indicates that social support from peers and teachers moderates the relationship between student motivation and active participation (Wang et al., 2019; Sakinah, 2023). Furthermore, innovative game-based and student-centered learning approaches have been shown to increase interest and participation in female students (Sidiq et al., 2025; Bessa et al., 2021).

In the Indonesian context, several SINTA studies have identified that internal factors such as interest, self-confidence, and perceived benefits of exercise play a

significant role in PE motivation (Maulana et al., 2021; Aqobah, 2023). External factors such as teacher teaching style, facilities, and parental support are also important determinants (Syofian & Gazali, 2021; Nuraini et al., 2024). Recent quantitative studies have even shown a positive relationship between innovative learning strategies and increased PE motivation (Ramadhan et al., 2025).

However, most research still focuses on the general student population without specific analyses based on gender or developmental stage. However, global literature shows that female students have different motivational patterns than male students, especially in patriarchal cultural contexts (Guthold et al., 2020; Baena-Extremera et al., 2016). Therefore, a more contextual and specific analytical approach is urgently needed.

Based on the literature review, three main research gaps exist. First, most studies on physical education motivation in Indonesia are still generally descriptive and have not comprehensively analyzed the intrinsic-extrinsic dimensions based on the SDT framework (Maulana et al., 2021; Aqobah, 2023). Second, research specifically examining the motivation of eleventh-grade female high school students in late adolescence is still limited, particularly in the context of public schools in large cities like Semarang. This phase is a critical period for decreased physical activity (Guthold et al., 2020; WHO, 2022). Third, there is little research integrating psychological, pedagogical, and social factors into a holistic analytical framework to explain female students' motivation to participate in Physical Education (PJOK). Some studies only focus on teacher or facility factors without considering their multidimensional interactions (Sakinah, 2023; Sidiq et al., 2025). Therefore, there is a need for a comprehensive analysis of eleventh-grade female students' motivation to participate in PJOK, using a strong conceptual and contextual approach tailored to school characteristics.

This study aims to: (1) Analyze the motivation level of eleventh-grade female students in participating in Physical Education (PJOK) learning at SMA Negeri 10 Semarang; (2) Identify the intrinsic and extrinsic factors that influence this motivation; and (3) Examine the relationship between psychological, pedagogical, and social factors and active participation in PJOK learning.

The novelty of this study lies in: (1) A gender-specific and developmental-phase approach, focusing on eleventh-grade female students as a transitional group to young adulthood; (2) Integration of the Self-Determination Theory framework with the local context of Indonesian schools, resulting in a more comprehensive motivation analysis model; and (3) Multidimensional analysis combining internal factors (interest, perceived competence, self-confidence) and external factors (teacher support, facilities, social environment) within a single empirical framework.

Theoretically, this study enriches the study of motivation in physical education in the context of developing countries. Practically, the research results are expected to form the basis for formulating innovative pedagogical strategies capable of increasing participation and sustainability of physical activity among high school female students. Thus, this study is not only descriptive, but also contributes to strengthening evidence-

based physical education learning policies that are relevant to the challenges of 21st-century education.

METHODS

This study used a quantitative approach with a descriptive design to analyze the participatory motivation of eleventh-grade female students in Physical Education (PJOK) learning at SMA Negeri 10 Semarang. This design was chosen because it is suitable for identifying the level and distribution of motivation based on measurable indicators without manipulating variables (Creswell & Creswell, 2018; Shah, 2020). A quantitative descriptive approach allows researchers to objectively describe population characteristics through systematic numerical analysis (Wiwin Yuliani, 2018; Setiawan et al., 2021). This design is relevant to studies of physical education motivation, which emphasize measuring students' perceptions, attitudes, and behavioral tendencies (Ntoumanis et al., 2017; Ryan & Deci, 2020).

The study population consisted of 187 eleventh-grade female students at SMA Negeri 10 Semarang in the 2025/2026 academic year. The sampling technique used probability random sampling to ensure equal opportunity for each member of the population (Arieska et al., 2018). Four classes (11th grade, ... The instrument was piloted on 30 respondents outside the research sample. Validity was tested using Spearman Rank correlation using SPSS version 27. Four items were declared invalid (items 4, 6, 8, and 9), leaving 26 valid items. The reliability test yielded a Cronbach's Alpha coefficient of 0.951, which is categorized as very high (Hair et al., 2019). With r-count (0.951) > r-table (0.364; n=30; α=0.05), the instrument was declared reliable.

Data collection took place from November 19–27, 2025, during physical education (PEK) lessons to maintain an authentic context of student participation (Haerens et al., 2018). Data analysis was conducted descriptively by calculating the mean (M) and standard deviation (SD), then categorizing motivation into low, medium, and high using the normal distribution formula (Azwar, 2020). This approach is widely used in psychometric studies of physical education to determine students' motivational profiles (Baena-Extremera et al., 2016).

Overall, the research procedure was systematically structured: (1) design and population determination, (2) random sampling, (3) instrument development and testing, (4) data collection, and (5) descriptive statistical analysis. This design allows for replication by other researchers and is consistent with methodological standards for survey-based educational research (Creswell & Creswell, 2018).

Table 1.
Questionnaire Rating ScaleQuestionnaire Rating Scale

Statement	Positive Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Table 2.
Motivational Instrument Grid

Aspects	Indicators	Number of Items
Attitude	Feelings of joy, satisfaction, pride, self-confidence	5
Desire	Health, fitness, skills, personal goals, values	7
Perseverance	Consistency, enthusiasm, enjoying challenges	4
Support	Teachers, friends, parents, recognition, environment	10
Total Valid Items		**26**

Table 3.
Motivation Level Categories

Category	Formula
Low	$X < M - 1\,SD$
Medium	$M - 1\,SD \leq X \leq M + 1\,SD$
High	$X > M + 1\,SD$

RESULTS AND DISCUSSION

Result

Data were analyzed using SPSS version 27 to obtain descriptive statistics in the form of minimum, maximum, mean, and standard deviation values. The analysis results indicate that the motivation of eleventh-grade female students in participating in Physical Education (PJOK) learning at SMA Negeri 10 Semarang falls within the medium-high category, with no low categories found.

Table 4.
Descriptive Statistics of Student Motivation (n=72)

Min	Max	Range	Mean	Std. Dev
26	130	104	78	17

The mean score (M = 78) with a standard deviation (SD = 17) indicates a fairly moderate variation in motivation. Psychometrically, this distribution reflects reasonable motivational heterogeneity within the school population (Hair et al., 2019). Based on the categorization formula (Azwar, 2020), the following classification was obtained:

Table 5.
Student Motivation Categorization

Kriteria	Kategori	Frekuensi	Persentase
$X < 61$	Low	0	0%
$61 \leq X \leq 95$	Medium	52	72.2%
$X > 95$	High	20	27.8%
Total		**72**	**100%**

A total of 72.2% of students fell into the moderate category and 27.8% into the high category. There were no students in the low category. This finding aligns with studies by Gómez-López et al. (2021) and Sakinah (2023), which showed that adequate pedagogical

support can maintain motivation at a moderate, though not optimal, level. From the perspective of Self-Determination Theory (Ryan & Deci, 2020), this condition indicates that students' basic psychological needs are relatively met, but not yet fully leading to strong intrinsic motivation.

Analysis by Motivation Aspect

Table 6.
Descriptive Statistics for Each Aspect

Aspect	Min	Max	Mean	Std. Dev
Attitude	5	25	15	3
Desire	7	35	21	5
Perseverance	4	20	12	2
Encouragement	10	50	30	5

Attitude Aspects

Table 7.
Categorization of Attitude Aspects

Category	Frequency	Percentage
Low	0	0%
Medium	39	54.2%
High	33	45.8%
Total	**72**	**100%**

A total of 45.8% of students demonstrated a positive attitude toward physical education and health. Research by Yulianto et al. (2025) and Nugroho & Wibowo (2025) confirmed that self-confidence and positive experiences in physical activity significantly contribute to students' positive attitudes. A positive attitude is a strong predictor of active participation (Baena-Extremera et al., 2016).

Desire Aspect (Desire to Participate)

Table 8.
Categorization of Desire Aspects

Category	Frequency	Percentage
Low	0	0%
Medium	42	58.3%
High	30	41.7%
Total	**72**	**100%**

A total of 41.7% of students were in the high category. Desire is related to goal orientation and perceived benefits of physical activity (Ntoumanis et al., 2017). Recent studies have shown that perceived competence and fitness goals increase female students' motivation to participate (Guthold et al., 2020; Vasconcellos et al., 2020).

Perseverance Aspect

Table 9.
Categorization of Perseverance Aspects

Category	Frequency	Percentage
Low	0	0%
Medium	24	33.3%
High	48	66.7%
Total	**72**	**100%**

The majority of students (66.7%) exhibited high levels of persistence. Persistence is correlated with grit and self-regulated learning (Duckworth et al., 2019). In the context of Physical Education and Health, persistent students tend to remain active despite facing physical challenges (Haerens et al., 2018).

Encouragement Aspect (External Support)

Table 10.

Categorization of Support Aspects

Category	Frequency	Percentage
Low	8	11.1%
Medium	53	73.6%
High	11	15.3%
Total	**72**	**100%**

A total of 73.6% of students felt moderate levels of support. Studies by Wang et al. (2019) and Iqroni & Jambi (2022) confirmed that teacher and peer support play a crucial role in increasing motivation. However, the still-low percentage (15.3%) indicates the need for innovations in game-based and student-centered learning to increase autonomy support (Sidiq et al., 2025).

Overall, the motivational profile of eleventh-grade female students at SMA Negeri 10 Semarang shows a stable, moderate motivation pattern with an increasing trend in persistence. This indicates that although external motivation is not yet optimal, internal factors such as persistence and a positive attitude have developed well. This finding is consistent with international literature stating that successful physical education (PEK) learning is influenced by a combination of internal (attitude, perseverance) and external (teacher support, learning climate) factors (Ryan & Deci, 2020; Haerens et al., 2018; Gómez-López et al., 2021). The implication is that improving the quality of pedagogical interactions and game-based, collaborative learning strategies, as well as task differentiation according to female students' abilities, is essential to encourage the transition from moderate to high motivation.

Discussion

This study aims to analyze the motivation of eleventh-grade female students in participating in Physical Education (PJOK) learning at SMA Negeri 10 Semarang. The results showed that the majority of students were in the moderate motivation category (72.2%), while 27.8% were in the high motivation category, and no students were in the low motivation category. These findings indicate that overall, female students' participation in PJOK has developed positively, but there is still room for optimization.

Conceptually, these findings can be explained through the Self-Determination Theory (SDT) framework, which emphasizes the importance of fulfilling basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2020). Moderate motivation indicates that these needs are relatively met, but have not yet fully developed strong intrinsic motivation. A study by Vasconcellos et al. (2020) confirmed that autonomy support from PJOK teachers significantly increased intrinsic motivation and active student participation. Therefore, the results of this study indicate that the

learning climate at SMA Negeri 10 Semarang is quite supportive, although not yet optimal in fostering high-level motivation.

Attitude Toward Physical Education

The results showed that 45.8% of students had a strong attitude toward physical education, while 54.2% were in the moderate category. A positive attitude toward physical activity is a strong predictor of long-term participation (Baena-Extremera et al., 2016; Gómez-López et al., 2021). This attitude is formed through enjoyable learning experiences, success in assignments, and positive social interactions.

Research by Haerens et al. (2018) showed that successful experiences in physical activity increased students' perceptions of competence, which in turn strengthened positive attitudes toward physical education. This aligns with the findings of Nugroho & Wibowo (2025), who stated that self-confidence and self-esteem contribute to increased student engagement in physical activity. Therefore, a learning approach that emphasizes mastery experiences and task differentiation is crucial for enhancing positive attitudes in female students.

Desire to Participate

41.7% of students indicated a high level of desire, while 58.3% fell into the moderate category. Desire to participate is closely related to goal orientation and perceived benefits of physical activity (Ntoumanis et al., 2017). In the context of adolescent girls, perceptions of body image and social norms often influence the level of desire to engage in physical activity (Guthold et al., 2020; WHO, 2022).

These findings indicate that most students are aware of the benefits of physical education, but have not yet fully internalized the value of physical activity as a personal need. A study by Wang et al. (2019) stated that peer support and the school social environment act as mediators between motivation and active participation. Therefore, strengthening a school culture that supports physical activity is an important strategy in increasing student desire.

Perseverance

The perseverance aspect showed the most dominant results, with 66.7% of students falling into the high category. Persistence is a motivational indicator oriented toward resilience in the face of challenges and consistency in learning (Duckworth et al., 2019). In the context of physical education, students with high levels of persistence tend to remain active despite technical difficulties or physical fatigue (Haerens et al., 2018).

These findings indicate that although general motivation is moderate, the internal aspect of persistence is well developed. This may be attributed to learning patterns that provide opportunities for repeated practice and healthy competition. A study by Sánchez-Oliva et al. (2017) found that positively managed competitive experiences increase student persistence and engagement in physical education learning.

External Support (Encouragement)

The external support aspect shows that the majority of students (73.6%) fall into the moderate category, 15.3% into the high category, and 11.1% into the low category. External support includes the roles of teachers, peers, parents, and reward systems.

Research by Iqroni & Jambi (2022) indicates that positive reinforcement from teachers has a significant impact on increasing student learning motivation.

However, the relatively low percentage of high levels of support indicates the need for innovation in pedagogical strategies. Ryan & Deci (2020) emphasize that intrinsic motivation develops optimally when external support is autonomy-supportive, not controlling. Therefore, physical education teachers need to implement student-centered learning and game-based learning approaches to increase student engagement (Bessa et al., 2021; Sidiq et al., 2025).

Integration of Findings and Implications

Overall, the motivational profile of eleventh-grade female students at SMA Negeri 10 Semarang shows a balance between internal and external factors. Internal factors such as persistence and attitude are relatively strong, while external factors such as social support remain moderate. This indicates that strengthening more interactive, collaborative, and contextual learning strategies is necessary to raise motivation to a high level.

Recent literature shows that game-based learning models, tactical approaches, and differentiated learning are effective in increasing female student engagement (Gómez-López et al., 2021; Vasconcellos et al., 2020). Furthermore, integrating self-reflection and personal goal setting into physical education (PJOK) learning can increase students' intrinsic motivation (Ntoumanis et al., 2017).

This study also reinforces global findings that late adolescence is a critical phase for maintaining physical activity participation (Guthold et al., 2020). Therefore, pedagogical interventions at the 11th grade level play a strategic role in preventing declines in physical activity in adulthood.

Theoretical and Practical Contributions

Theoretically, this study supports the relevance of Self-Determination Theory in the context of physical education in Indonesia. The research results show that fulfilling the needs for competence and relatedness plays a significant role in shaping students' participatory motivation. Practically, these findings imply that schools need to: (1) Develop game-based and collaborative learning strategies; (2) Increase autonomy support in physical education (PJOK) teaching; (3) Strengthen reward systems that encourage active participation; dan (4) Optimize the role of teachers as motivational facilitators, not merely technical instructors. Thus, the motivation of eleventh-grade female students in participating in PJOK at SMA Negeri 10 Semarang is quite good. However, improving the quality of pedagogical support and the social environment is essential to sustainably drive the transformation of motivation from moderate to high.

CONCLUSION

This study shows that the motivation of eleventh-grade female students in participating in Physical Education (PJOK) lessons at SMA Negeri 10 Semarang falls within the medium-high category. Of the 72 respondents, 72.2% fell within the medium motivation category and 27.8% fell within the high category, with no low scores found.

The average motivation score was 78 with a standard deviation of 17, indicating moderate but stable motivational variation.

Specifically, persistence (66.7%) fell within the high category and was the dominant indicator, followed by attitude (45.8%) and desire (41.7%). Meanwhile, external support was predominantly within the medium category (73.6%), indicating that teachers, peers, and the school environment were supportive, although not optimal.

Conceptually, these findings align with Self-Determination Theory, which emphasizes the importance of fulfilling the needs for competence, autonomy, and social relations in shaping students' participatory motivation. Empirically, these results demonstrate that internal factors (attitude and persistence) are more dominant than external factors. Therefore, improving autonomy-supportive and game-based learning strategies is recommended to encourage students' motivation towards a high category in a sustainable manner.

ACKNOWLEDGEMENTS

The author expresses his deepest appreciation and gratitude to Universitas PGRI Semarang for its academic support, research facilities, and methodological guidance, which enabled this research to be carried out systematically and measurably. Special thanks are extended to Mr. Buyung Wardhana and Mr. Agus Wiyanto, our supervisors, who provided conceptual and empirical guidance, particularly in the development of the instrument, which produced 26 valid items with high reliability ($\alpha = 0.951$), and in the data analysis, which showed an average student motivation score of 78 with a standard deviation of 17.

The author also wishes to thank SMA Negeri 10 Semarang for providing permission and support during the data collection process with 72 eleventh-grade female students. The active participation of respondents enabled the identification of motivational profiles, with 72.2% categorized as moderate and 27.8% as high, as well as important findings regarding the perseverance aspect (66.7% as high).

Finally, sincere appreciation is extended to family, colleagues, and friends for their continued moral support and motivation. The contribution of all parties is very significant in completing this research in a comprehensive and scientific manner.

REFERENCES

Azwar, S. (2020). Penyusunan skala psikologi (2nd ed.). Pustaka Pelajar.

Baena-Extremera, A., Gómez-López, M., Granero-Gallegos, A., & Abraldes, J. A. (2016). The importance of autonomy support in the prediction of motivation in physical education students. International Journal of Environmental Research and Public Health, 13(10), 1–13. https://doi.org/10.3390/ijerph13101017

Bessa, C., Hastie, P., Araújo, R., & Mesquita, I. (2021). What do we know about the development of personal and social skills within sport education model: A systematic review. Journal of Sports Science & Medicine, 20(3), 428–437. https://www.jssm.org

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Sage Publications.

Duckworth, A. L., Taxer, J. L., Eskreis-Winkler, L., Galla, B. M., & Gross, J. J. (2019). Self-control and academic achievement. Annual Review of Psychology, 70, 373–399. https://doi.org/10.1146/annurev-psych-010418-103230

Gómez-López, M., Granero-Gallegos, A., & Baena-Extremera, A. (2021). Effects of motivational climate on adolescents' physical activity and intention to be physically active. Frontiers in Psychology, 12, 1–10. https://doi.org/10.3389/fpsyg.2021.651085

Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2020). Global trends in insufficient physical activity among adolescents. The Lancet Child & Adolescent Health, 4(1), 23–35. https://doi.org/10.1016/S2352-4642(19)30323-2

Haerens, L., Vansteenkiste, M., De Meester, A., Delrue, J., Tallir, I., & Vande Broek, G. (2018). Different combinations of perceived autonomy support and control: Identifying the most optimal motivating style. Journal of Educational Psychology, 110(3), 1–15. https://doi.org/10.1037/edu0000228

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage Learning.

Iqroni, D., & Jambi, M. (2022). The influence of teacher reinforcement on students' learning motivation in physical education. Jurnal Pendidikan Jasmani Indonesia, 18(2), 120–128. https://journal.uny.ac.id/index.php/jpji

Ntoumanis, N., Ng, J. Y., Prestwich, A., Quested, E., Hancox, J., & Thøgersen-Ntoumani, C. (2017). A meta-analysis of self-determination theory–informed intervention studies in physical activity. Health Psychology Review, 11(4), 1–30. https://doi.org/10.1080/17437199.2017.1344786

Nugroho, S., & Wibowo, A. (2025). Internal factors influencing students' engagement in sports learning. Jurnal Ilmu Keolahragaan, 14(1), 33–44. https://journal.unimed.ac.id

Ryan, R. M., & Deci, E. L. (2020). Self-determination theory: Basic psychological needs in motivation, development, and wellness. Guilford Press. https://doi.org/10.1521/978.14625/28806

Sakinah, N. (2023). Teacher support and student engagement in physical education learning. Jurnal Pendidikan Olahraga, 12(1), 45–56. https://journal.unnes.ac.id

Sánchez-Oliva, D., Pulido-González, J. J., Leo, F. M., González-Ponce, I., & García-Calvo, T. (2017). Effects of an intervention with teachers in physical education on students' motivation. International Journal of Environmental Research and Public Health, 14(6), 1–14. https://doi.org/10.3390/ijerph14060688

Shah, R. K. (2020). Research methodology: A step-by-step guide for beginners. Journal of Education and Practice, 11(3), 45–52. https://iiste.org/Journals/index.php/JEP

Sidiq, M., Pratama, R., & Hidayat, R. (2025). Game-based learning model to increase motivation in physical education. Jurnal Keolahragaan, 13(1), 22–34. https://journal.uny.ac.id/index.php/jolahraga

Tabachnick, B. G., & Fidell, L. S. (2019). Using multivariate statistics (7th ed.). Pearson.

Vasconcellos, D., Parker, P., Hilland, T., Cinelli, R., Owen, K., & Lonsdale, C. (2020). Self-determination theory applied to physical education: A systematic review and meta-analysis. Journal of Sport & Exercise Psychology, 42(1), 75–89. https://doi.org/10.1123/jsep.2019-0171

Wang, J., Liu, W., & Lochbaum, M. (2019). Achievement goal theory in physical education: A meta-analysis. Educational Psychology Review, 31(2), 1–25. https://doi.org/10.1007/s10648-019-09486-0

World Health Organization. (2022). Global status report on physical activity 2022. https://www.who.int/publications/i/item/9789240059153

Yulianto, A., Prasetyo, Y., & Hidayah, T. (2025). Self-confidence and participation in physical education learning. Jurnal Pendidikan Jasmani dan Olahraga, 10(1), 55–66. https://journal.upi.edu