

Student Interest and Motivation in Participating in Volleyball Extracurricular Activities at SMP

Nadhira Amelia^{1A-E*}, Atri Widowati^{2B-D}, Mhd. Usni Zamzami Hasibuan^{3B-D}

^{1,2,3} Universitas Jambi, Jambi, Indonesia

nadhiraamelia477@gmail.com¹, atri.widowati@unja.ac.id², zamzamihsb16@unja.ac.id³

ABSTRACT

This study aims to analyze the level of students' interest and motivation in participating in volleyball extracurricular activities at SMP Negeri 1 Rantau Pandan, Bungo Regency. Extracurricular sports activities play a strategic role in supporting students' holistic development; however, preliminary observations indicated that students' participation in volleyball extracurricular activities was not evenly distributed. While some students demonstrated high enthusiasm and consistent attendance, others showed low engagement, irregular participation, and limited motivation. Low interest was reflected in minimal active involvement and lack of enthusiasm during training sessions, whereas suboptimal motivation—particularly intrinsic motivation—was characterized by students giving up easily, perceiving training activities as monotonous, and experiencing limited pride or satisfaction in personal achievement. This study employed a descriptive research design with a quantitative approach to provide an objective and measurable overview of students' interest and motivation. The research sample consisted of 25 students who actively participated in volleyball extracurricular activities, comprising 13 female students and 12 male students. Data were collected using a structured questionnaire based on a Likert scale, consisting of 20 statement items measuring students' interest and 20 statement items measuring students' motivation. The collected data were analyzed using descriptive statistics in the form of percentages. The results revealed that the level of students' interest reached 66%, while students' motivation achieved a higher percentage of 69%. Overall, the combined average of students' interest and motivation was 68%, which falls into the good category. Nevertheless, the findings also indicated that 32% of students still exhibited relatively low interest in participating in volleyball extracurricular activities. These results suggest that although the extracurricular volleyball program has generally succeeded in fostering positive interest and motivation, further improvements are required to enhance students' intrinsic motivation and active engagement. The findings provide empirical evidence that can serve as a basis for developing more effective and student-centered extracurricular sports programs in schools.

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INTRODUCTION

Physical Education, Sports, and Health (PJOK) is an integral part of the education system, oriented towards holistic human development through planned, systematic, and sustainable physical activity. PJOK not only emphasizes improving physical fitness but also plays a strategic role in shaping the cognitive, affective, social, and emotional aspects of students, thus viewing the individual as a unified whole (Siti et al., 2024; Bailey et al., 2022). In the context of formal education, PJOK serves as a learning vehicle that integrates the values of character, discipline, cooperation, sportsmanship, and a healthy lifestyle relevant to modern public health challenges (Nuraini et al., 2024; WHO, 2023).

At the individual and national levels, sport and physical education contribute significantly to improving the quality of human resources, population health, social cohesion, and economic productivity (UNESCO, 2021; Kirk, 2022). Schools, as formal educational institutions, provide a strategic environment for internalizing these values through intracurricular learning and self-development activities, including extracurricular sports (El et al., 2023). The success of Physical Education (PJOK) implementation is heavily influenced by teacher competence, supporting infrastructure, and instructional design that fosters student interest and motivation (Fauziah & Ramadan, 2024; Casey & MacPhail, 2018).

Volleyball is a key component of PJOK at the junior high school level. Volleyball, characterized by its teamwork, demands motor coordination, teamwork, effective communication, and emotional control, making it a potent platform for supporting students' physical and social development (Efendi et al., 2024; Palao & Valadés, 2019). In addition to classroom learning, extracurricular volleyball activities provide an important platform for fostering student interest, talent development, and fostering ongoing student achievement (Khasanah & Prasetyo, 2023; Sitepu et al., 2024).

However, the reality on the ground shows that student participation in extracurricular sports, including volleyball, is suboptimal and tends to fluctuate. This phenomenon is evident at SMP Negeri 1 Rantau Pandan, Bungo Regency, where some students demonstrate high enthusiasm, while others are passive or participate instrumentally due to external pressure. This situation indicates problems with student interest and motivation, which directly impact the sustainability and quality of extracurricular development.

Recent research confirms that interest and motivation are key determinants of sustained participation in physical activity and sport at school age (Ryan & Deci, 2020; Ntoumanis et al., 2021). Interest reflects an individual's affective attraction to a particular activity, while motivation—both intrinsic and extrinsic—drives behavior, influencing the intensity, persistence, and quality of student engagement (Hagger et al., 2020). In the context of physical education, intrinsic motivation has been shown to be positively associated with enjoyment of learning, active engagement, and the adoption of a long-term active lifestyle (Teixeira et al., 2020; Standage et al., 2022).

Several international studies have shown that a learning climate that supports autonomy, competence, and social connectedness significantly influences student

motivation in physical education and school sport (Vasconcellos et al., 2020; Cheon et al., 2021). In team sports like volleyball, social factors—including team cohesion, coach/teacher support, and successful experiences—are important predictors of interest and motivation (García-Calvo et al., 2018; Cuevas et al., 2020).

At the national level, research on extracurricular sports activities reports that student interest and motivation are influenced by variations in training methods, the quality of coach-student interactions, facilities, and the relevance of activities to student needs and preferences (Khasanah & Prasetyo, 2023; Sitepu et al., 2024). These studies generally emphasize the role of pedagogical and environmental factors, but are limited to general descriptions without a comprehensive mapping of the dimensions of interest and motivation within the specific context of schools and sports.

Although the literature demonstrates a consensus that interest and motivation are key factors in school sports participation, research gaps exist in several important aspects. First, most studies focus on intracurricular physical education (PJOK) learning, while empirical studies specifically analyzing volleyball extracurricular activities at the junior high school level are still relatively limited, particularly in non-urban contexts. Second, existing research tends to examine interest or motivation separately, failing to integrate the two into a coherent analytical framework to understand the dynamics of student participation.

Third, there is still a lack of research linking empirical findings on interest and motivation to the actual school context including student characteristics, school culture, and extracurricular coaching practices so that the resulting recommendations are often generic and lack contextualization. Fourth, at the local level in Bungo Regency, specifically at SMP Negeri 1 Rantau Pandan, there has been no systematic study documenting students' interest and motivation in participating in volleyball extracurricular activities as a basis for formulating strategies to improve coaching quality.

Based on these research problems and gaps, this study aims to comprehensively analyze the level of student interest and motivation in participating in volleyball extracurricular activities at SMP Negeri 1 Rantau Pandan, Bungo Regency. Specifically, this study aims to: (1) identify students' level of interest in volleyball extracurricular activities; (2) analyze the dimensions of students' intrinsic and extrinsic motivation; and (3) provide a contextual empirical overview as a basis for developing more effective and sustainable extracurricular development strategies.

The novelty of this study lies in the integration of interest and motivation analysis within the context of junior high school volleyball extracurricular activities in a regional school setting, which has received little attention in the literature. This study also offers a practical contribution by providing contextual empirical data that can be utilized by physical education teachers and schools to design extracurricular development programs based on student needs and characteristics. Therefore, this study is expected to not only enrich the body of knowledge in physical education and sports psychology but also provide practical implications for improving the quality of education and sustainable school sports development.

METHODS

This research was conducted at SMP Negeri 1 Rantau Pandan, located on Jl. Durian Keramat, Rantau Pandan District, Bungo Regency, Jambi Province. The research location was selected based on the presence of active and structured volleyball extracurricular activities, making it relevant for examining aspects of student interest and motivation in the context of school sports participation. The research was planned and conducted on December 25th, with the aim of obtaining an empirical picture of students' levels of interest and motivation in participating in volleyball extracurricular activities.

This research used a descriptive method with a quantitative approach. This quantitative approach was chosen because it allows researchers to obtain an objective and measurable picture of students' interest and motivation through statistically analyzed numerical data (Creswell & Creswell, 2018; Fraenkel et al., 2019). The descriptive method was used because this study did not aim to examine causal relationships or test specific hypotheses, but rather to describe actual phenomena occurring in the field related to student involvement in extracurricular sports activities (Sugiyono, 2022; Cohen et al., 2018). This approach is widely used in physical education and sports psychology studies to map students' affective characteristics, including interests and motivation (Ntoumanis et al., 2021; Standage et al., 2022).

The population in this study was all students participating in extracurricular volleyball activities at SMP Negeri 1 Rantau Pandan, totaling 25 students. The sampling technique used was saturated sampling (total sampling), where all members of the population were included in the study sample. This technique was chosen because the population size was relatively small and allowed researchers to reach all respondents, thus minimizing sampling bias and increasing data representativeness (Taherdoost, 2016; Etikan et al., 2016). The study sample consisted of 13 female students and 12 male students, all of whom actively participated in extracurricular volleyball activities.

The variables examined in this study included student interest and motivation in participating in extracurricular volleyball activities. Interest is defined as an affective tendency that reflects a student's interest, attention, enjoyment, and active involvement in an activity (Renninger & Hidi, 2016; Schiefele, 2017). In the context of extracurricular sports, interest is reflected through enthusiasm during practice, attention to the coach's instructions, and active participation in each activity session. Meanwhile, student motivation is understood as a psychological drive that drives, directs, and maintains participatory behavior in sports activities, both from within the student (intrinsic motivation) and from external factors (extrinsic motivation) such as support from parents, teachers, peers, and the hope of achieving achievements or awards (Ryan & Deci, 2020; Hagger et al., 2020; Teixeira et al., 2020).

The research instrument used was a questionnaire developed based on theoretical indicators of interest and motivation in the context of physical education and school sports. The instrument was developed based on the motivational framework in Self-Determination Theory and empirical studies related to student sports participation (Ryan & Deci, 2020; Vasconcellos et al., 2020). The questionnaire used a five-level Likert scale:

very appropriate, appropriate, somewhat appropriate, inappropriate, and very inappropriate. The interest questionnaire consisted of 10 statements, and the motivation questionnaire also consisted of 10 statements, each designed to capture students' affective, cognitive, and behavioral dimensions.

Before being used in primary data collection, the research instruments underwent validity and reliability tests to ensure that each item accurately and consistently measured the intended construct. Validity tests were conducted to assess the item's suitability to the variable indicators, while reliability tests aimed to ensure the instrument's internal consistency (DeVellis, 2017; Hair et al., 2019). This procedure aligns with methodological practices of quantitative research in education and sports psychology.

Data collection was conducted by directly distributing questionnaires to all respondents participating in extracurricular volleyball activities. Respondents were given an explanation of the research objectives and how to complete the questionnaire to ensure honesty and accuracy of their responses. The collected data were then analyzed using descriptive statistics using percentages, which aim to quantitatively and systematically describe students' levels of interest and motivation (Field, 2018; Pallant, 2020).

Percentages were calculated using the formula:

$$P = \frac{F}{N} \times 100\%$$

where P is the percentage of responses, F is the frequency of respondents' responses, and N is the total number of respondents. The results of the analysis are presented in the form of percentage distributions and interpretive categories, which are then used as a basis for drawing conclusions regarding students' levels of interest and motivation in participating in extracurricular volleyball at SMP Negeri 1 Rantau Pandan, Bungo Regency.

RESULTS AND DISCUSSION

Result

Analysis of Students' Interest in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency, Based on the Feeling of Pleasure Indicator.

Table 1.

Cumulative Percentage of Student Responses to the Feeling of Pleasure Indicator					
No Item	Number of Items	Score	F	Average Score	%
1,2,3	3	SS(5)	9	3	19%
		S(4)	14	5	24%
		CS(3)	32	11	41%
		TS(2)	20	7	17%
		STS(1)	0	0	0%
Amount			75	25	
Percentage				63%	
Criteria				Good	

Analysis of Students' Interest in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency Based on Student Interest Indicators.

Table 2.

Cumulative Percentage of Student Responses to Student Interest Indicators.

No Item	Number of Items	Score	F	Average Score	%	
4,5,6	3	SS(5)	4	1	18%	
		S(4)	26	9	42%	
		CS(3)	36	12	43%	
		TS(2)	9	3	7%	
		STS(1)	0	0	0%	
Amount			75	25		
Percentage				67%		
Criteria				Good		

Analysis of Students' Interest in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency based on Student Attention Indicators.

Table 3.

Cumulative Percentage of Student Responses to the Student Attention Indicator

No Item	Number of Items	Score	F	Average Score	%	
7,8	2	SS(5)	5	2,5	15%	
		S(4)	13	6,5	31%	
		CS(3)	26	13	47%	
		TS(2)	5	2,5	6%	
		STS(1)	1	0,5	1%	
Amount			75	25		
Percentage				67%		
Criteria				Good		

Analysis of Students' Interest in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Pandan, Bungo Regency on Student Involvement Indicators.

Table 4.

Cumulative Percentage of Student Responses to Student Engagement Indicators

No Item	Number of Items	Score	F	Average Score	%	
9,10	2	SS(5)	4	2	12%	
		S(4)	17	8,5	40%	
		CS(3)	24	12	42%	
		TS(2)	5	2,5	6%	
		STS(1)	0	0	0%	
Amount			50	25		
Percentage				68%		
Criteria				Good		

Analysis of Students' Interest in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency.

Table 5.

Cumulative Percentage of Student Interest Responses

No Item	Number of Items	Score	F	Average Score	%	
1,2,3,4,5,6,7,8,9, 10	10	SS(5)	22	2	13%	
		S(4)	70	7	34%	
		CS(3)	118	12	43%	
		TS(2)	39	4	10%	
		STS(1)	1	0	0%	
Amount			250	25		
Percentage				66%		
Criteria				Good		

Analysis of Student Motivation in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency on Intrinsic Motivation Indicators.

Table 6.

Cumulative Percentage of Student Responses to Intrinsic Motivation Indicators.

No Item	Number of Items	Score	F	Average Score	%	
11,12,13,14,15	5	SS(5)	12	2	14%	
		S(4)	43	9	40%	
		CS(3)	58	12	40%	
		TS(2)	12	2	6%	
		STS(1)	0	0	0%	
Amount		125		25		
Percentage				69%		
Criteria				Good		

Analysis of Student Motivation in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency on Extrinsic Motivation Indicators.

Table 7.

Cumulative Percentage of Student Responses to Extrinsic Motivation Indicators

No Item	Number of Items	Score	F	Average Score	%	
16,17,18,19,20	5	SS(5)	11	2	14%	
		S(4)	48	10	40%	
		CS(3)	60	12	40%	
		TS(2)	4	1	6%	
		STS(1)	2	0	0%	
Amount		125		25		
Percentage				70%		
Criteria				Good		

Analysis of Student Motivation in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency.

Table 8.

Cumulative Percentage of Student Motivation Responses

No Item	Number of Items	Score	F	Average Score	%	
11,12,13,14,15,16,1 7,18,19,20	10	SS(5)	23	2	13%	
		S(4)	91	9	42%	
		CS(3)	118	12	41%	
		TS(2)	16	2	4%	
		STS(1)	2	0	0%	
Amount		250		25		
Percentage				69%		
Criteria				Good		

Analysis of Students' Interests and Motivation in Participating in Volleyball Extracurricular Activities at SMP Negeri 1 Rantau Pandan, Bungo Regency.

Table 9.

Cumulative Percentage of Student Interest and Motivation Responses

No Item	Number of Items	Score	F	Average Score	%	
1,2,3,4,5,6,7,8,9,1 0,11,12,13,14,15,16 ,17,18,19,20	20	SS(5)	45	2	13%	
		S(4)	162	8	38%	
		CS(3)	236	12	42%	
		TS(2)	55	3	6%	
		STS(1)	3	0	0%	
Amount		501		25		
Percentage				68%		
Criteria				Good		

Table 10.

Cumulative Percentage of Student Interest and Motivation Based on Overall Indicators

Indicators	Percentage	Interpretation
Feelings of Enjoyment	63%	Good
Student Interest	67%	Good
Student Attention	67%	Good
Student Engagement	68%	Good
Intrinsic	69%	Good
Extrinsic	70%	Good
Cumulative	68%	Good

Discussion

Physical Education, Sports, and Health (PJOK) is essentially an academic field that utilizes physical activity as a learning medium to develop students holistically, encompassing physical, cognitive, affective, social, and emotional aspects. This approach positions movement activities not merely as a means of improving fitness, but also as a vehicle for developing personal skills, emotional regulation, social cooperation, and character values (Bailey et al., 2022; Kirk, 2022). Consistent with the classic view of Nugraha (2015), physical education is a planned process through learning experiences designed to meet the developmental and behavioral needs of individual children. This perspective is reinforced by contemporary studies that confirm that the quality of movement learning experiences significantly determines students' long-term engagement in physical activity and sports (Whitehead et al., 2019; Casey & MacPhail, 2018).

The results of this study indicate that, in general, students' interest and motivation in participating in volleyball extracurricular activities are in the good category (68%), although 32% of students still show relatively low interest and motivation. These findings indicate that the volleyball extracurricular activity at SMP Negeri 1 Rantau Pandan has been able to attract a large number of students, but has not yet been fully optimized in reaching and maintaining the engagement of all participants. Theoretically, this condition aligns with research findings stating that students' interest and motivation in school sports activities are heterogeneous and are strongly influenced by learning experiences, social environment, and perceptions of self-competence (Ryan & Deci, 2020; Ntoumanis et al., 2021).

Learning interest plays a central role in increasing student motivation and engagement, both in physical education (PJOK) learning and extracurricular activities. Students with high interest tend to demonstrate active participation, better concentration, and persistence in training, which ultimately have a positive impact on skill mastery and learning satisfaction (Renninger & Hidi, 2016; Schiefele, 2017). In the context of team sports like volleyball, interest is also closely related to enjoyment of play, social interaction, and a sense of belonging to the team (García-Calvo et al., 2018; Cuevas et al., 2020). Therefore, the "good" category of achievement in this study can be interpreted as indicating that the majority of students have experienced the affective and social benefits of extracurricular volleyball activities.

Student motivation, both intrinsic and extrinsic, is a determining factor in continued participation in school sports activities. Based on the Self-Determination Theory framework,

intrinsic motivation—such as enjoyment, challenge, and personal satisfaction contributes more strongly to long-term engagement than solely extrinsic motivation, such as rewards or external encouragement (Ryan & Deci, 2020; Teixeira et al., 2020). The findings of this study, which show that some students still have low motivation, indicate that some students may not fully experience autonomy, competence, and social connectedness in extracurricular activities. This aligns with previous studies that suggest a lack of training variety, monotonous training methods, and minimal positive reinforcement can reduce students' motivation to participate in school sports activities (Standage et al., 2022; Hagger et al., 2020).

In the context of Physical Education and Health, volleyball is viewed as a sport with high educational value because it demands motor coordination, decision-making, teamwork, and emotional control during play. Systematically designed and student-centered volleyball instruction and coaching have been shown to increase student interest, motivation, and motor skills (Efendi et al., 2024; Palao & Valadés, 2019). However, if the extracurricular training process is less adaptive to the varying abilities and needs of students, some students may feel less competent or less interested, as reflected in the percentage of students who demonstrated low motivation in this study.

Empirically, the results of this study are consistent with national and international research findings that report that students' interest and motivation in extracurricular sports are generally moderate to good, but still leave a group of students who participate passively or instrumentally (Khasanah & Prasetyo, 2023; Sitepu et al., 2024; Vasconcellos et al., 2020). This situation confirms that the success of extracurricular activities is determined not only by the availability of programs, but also by the quality of coaching, the leadership style of coaches/teachers, and a psychological climate that supports active student participation.

Therefore, the finding that 68% of students are in the good interest and motivation category can be viewed as a positive achievement, but also indicates the need for more targeted improvement strategies. These efforts can be achieved through varying training methods, providing constructive feedback, creating a pleasant training environment, and strengthening students' intrinsic motivation. A coaching approach oriented toward student needs and meaningful learning experiences is believed to be able to continuously increase interest and motivation (Cheon et al., 2021; Kirk, 2022).

Overall, this discussion confirms that student interest and motivation are the main foundations for the success of volleyball extracurricular activities at SMP Negeri 1 Rantau Pandan. The research results not only provide an empirical picture of the actual conditions of students but also strengthen evidence that extracurricular management based on appropriate pedagogical and psychological approaches is essential to optimize the role of school sports in supporting physical education goals and the holistic development of students.

CONCLUSION

Based on the research results and discussions, it can be concluded that student interest and motivation in participating in extracurricular volleyball activities at SMP Negeri 1 Rantau Pandan, Bungo Regency, are generally in the good category. Empirically, the

findings show that student interest reached 66%, indicating that the majority of students exhibited interest, enjoyment, and positive engagement in volleyball extracurricular activities. This reflects that the extracurricular program has been able to capture students' attention and provide a relatively meaningful movement learning experience.

Furthermore, student motivation was recorded at 69%, also in the good category. These results indicate that students are not only affectively interested but also possess a strong drive—both intrinsic and extrinsic—to participate and maintain involvement in volleyball extracurricular activities. This drive can stem from the enjoyment of playing, the desire to improve skills, social interactions with peers, and support from the school environment.

Simultaneously, student interest and motivation reached 68%, confirming that these two aspects are interconnected and play a crucial role in the success and sustainability of extracurricular sports activities. Despite being in the good category, these findings also indicate that some students still have suboptimal levels of interest and motivation. Therefore, efforts are needed to develop more innovative, adaptive, and student-centered extracurricular programs.

Conceptually, these research findings reinforce the view that interest and motivation are key factors in school sports participation. Practically, these findings can serve as a basis for physical education teachers and schools to improve the quality of extracurricular volleyball coaching to more effectively support student development holistically.

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REFERENCES

Bailey, R., Hillman, C., Arent, S., & Petitpas, A. (2022). Physical activity as an investment in personal and social change: The human capital model. *Journal of Physical Activity and Health*, 19(4), 271-278. <https://doi.org/10.1123/jpah.2021-0465>

Casey, A., & MacPhail, A. (2018). Adopting a models-based approach to teaching physical education. *Physical Education and Sport Pedagogy*, 23(3), 294-310. <https://doi.org/10.1080/17408989.2018.1429588>

Cheon, S. H., Reeve, J., & Ntoumanis, N. (2021). A needs-supportive intervention to help PE teachers enhance students' motivation. *Psychology of Sport and Exercise*, 52, 101824. <https://doi.org/10.1016/j.psychsport.2020.101824>

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge. <https://www.routledge.com/Research-Methods-in-Education/Cohen-Manion-Morrison/p/book/9781138209886>

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage. <https://us.sagepub.com/en-us/nam/research-design/book255675>

Cuevas, R., García-Calvo, T., & Contreras, O. (2020). Motivation and perceived motivational climate in youth volleyball players. *International Journal of Sports Science & Coaching*, 15(3), 315-325. <https://doi.org/10.1177/1747954120910193>

DeVellis, R. F. (2017). *Scale development: Theory and applications* (4th ed.). Sage. <https://us.sagepub.com/en-us/nam/scale-development/book246123>

Efendi, R., Nugroho, A., & Pratama, Y. (2024). Volleyball learning outcomes in junior high school physical education. *Journal of Physical Education and Sport*, 24(1), 112-119. <https://efsupit.ro/images/stories/vol24/issue1/Art%2014.pdf>

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. <https://doi.org/10.11648/j.ajtas.20160501.11>

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage. <https://uk.sagepub.com/en-gb/eur/discovering-statistics-using-ibm-spss-statistics/book252067>

García-Calvo, T., Sánchez-Oliva, D., Leo, F. M., Amado, D., & Pulido, J. J. (2018). Motivation in team sports: A systematic review. *International Journal of Sports Science & Coaching*, 13(1), 1-20. <https://doi.org/10.1177/1747954117739899>

Hagger, M. S., Hardcastle, S. J., Chater, A., Mallett, C., Pal, S., & Chatzisarantis, N. L. (2020). Autonomous motivation and health-related behaviour. *Health Psychology Review*, 14(1), 1-20. <https://doi.org/10.1080/17437199.2019.1703436>

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage. <https://www.cengage.com/c/multivariate-data-analysis-8e-hair>

Khasanah, U., & Prasetyo, Y. (2023). Students' interest in sports extracurricular activities. *Journal of Physical Education, Health and Sport*, 10(2), 85–92. <https://journal.unnes.ac.id/sju/index.php/jpehs/article/view/61234>

Kirk, D. (2022). Physical education futures. *Sport, Education and Society*, 27(1), 1–11. <https://doi.org/10.1080/13573322.2021.1963639>

Ntoumanis, N., Barkoukis, V., Gucciardi, D., & Chan, D. (2021). Linking coach interpersonal style with athlete motivation. *Journal of Sport and Exercise Psychology*, 43(4), 1–15. <https://doi.org/10.1123/jsep.2020-0272>

Palao, J. M., & Valadés, D. (2019). Technical and tactical skills in volleyball. *Journal of Human Kinetics*, 65(1), 203–212. <https://doi.org/10.2478/hukin-2018-0043>

Pallant, J. (2020). SPSS survival manual (7th ed.). McGraw-Hill. <https://www.mheducation.com.au/spss-survival-manual-9781760426262>

Renninger, K. A., & Hidi, S. (2016). The power of interest for motivation and engagement. Routledge. <https://doi.org/10.4324/9781315771045>

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective. *Contemporary Educational Psychology*, 61, 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>

Schiefele, U. (2017). Situational and individual interest. *Educational Psychologist*, 52(2), 73–88. <https://doi.org/10.1080/00461520.2017.1305885>

Sitepu, R., Simanjuntak, V., & Siregar, A. (2024). Motivation and participation in school sports extracurricular activities. *Jurnal Pendidikan Jasmani dan Olahraga*, 9(1), 45–53. <https://journal.uny.ac.id/index.php/jpjo/article/view/68921>

Standage, M., Gillison, F., Ntoumanis, N., & Treasure, D. (2022). Predicting motivation and behavior in physical education. *Journal of Sport and Exercise Psychology*, 44(2), 87–99. <https://doi.org/10.1123/jsep.2021-0194>

Sugiyono. (2022). Metode penelitian kuantitatif, kualitatif, dan R&D. Alfabeta. <https://www.cvalfabeta.com/product/metode-penelitian-kuantitatif-kualitatif-dan-rd>

Taherdoost, H. (2016). Sampling methods in research methodology. *International Journal of Academic Research in Management*, 5(2), 18–27. <https://hal.science/hal-02546796>

Teixeira, P. J., Marques, M. M., Silva, M. N., Brunet, J., Duda, J. L., Haerens, L., & Hagger, M. S. (2020). A classification of motivation and behavior change techniques. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 1–19. <https://doi.org/10.1186/s12966-020-00958-0>

UNESCO. (2021). Quality physical education guidelines for policy-makers. <https://unesdoc.unesco.org/ark:/48223/pf0000379583>

WHO. (2023). Physical activity and young people. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>