



The Impact of Basketball Extracurricular Activities on Student Learning Motivation: A Quantitative Study

M Rafli Ode Arsad¹, Abdul Rachman Syam Tuasikal², Gigih Siantoro³, Mochamad Ridwan⁴

¹Pendidikan Olahraga, Fakultas Ilmu Keolahragaan dan Kesehatan, Universitas Negeri Surabaya,
Indonesia.

E-mail: 24060805032@mhs.unesa.ac.id¹, rachmantuasikal@unesa.ac.id², gigih.siantoro@unesa.ac.id³,
mochamadridwan@unesa.ac.id⁴

Abstract

This study aims to examine the impact of basketball extracurricular activities on the learning motivation of junior high school students. Using a pretest-posttest control group design, the study involved 70 eighth-grade students divided into experimental and control groups. The data collection instrument was a learning motivation questionnaire adapted from the Self-Determination Scale with adequate reliability. The results of the analysis showed a significant increase in learning motivation in the experimental group compared to the control group. The average motivation score increased from 28.40 to 30.80, with the Wilcoxon test yielding a Z value of -3.336 and $p = 0.001$ (<0.05). These findings confirm that participation in basketball extracurricular activities can increase students' intrinsic motivation, which in turn has a positive effect on their learning process and outcomes. However, a small number of students experienced a decline in motivation, which may have been influenced by factors such as fatigue, differing expectations, or schedule conflicts. This study recommends that schools design more adaptive and balanced extracurricular programs so that all students can optimally benefit from sports activities.

Keywords : *basketball extracurricular activities, learning motivation, junior high school students*

INTRODUCTION

Physical education, as an integral part of the educational curriculum, plays an important role in supporting student development, both physically, cognitively, socially, and emotionally (Opstoel et al., 2020). One extracurricular activity that has great potential in supporting this development is basketball. Active participation in basketball extracurricular activities provides many benefits, such as improved physical skills, teamwork development, and strengthened self-discipline (Quinaud et al., 2023). In addition, basketball can also facilitate the development of students' intrinsic motivation, which plays a significant role in their learning process (Y. J. Luo et al., 2020). One important aspect that is often studied in education is learning motivation.

In this context, basketball can be an effective means of fostering intrinsic motivation—that is, the internal drive to engage in an activity because of the pleasure or satisfaction inherent in the activity itself (Herlambang et al., 2021). Students who have intrinsic motivation tend to be more involved in the activities they do and more persistent in achieving their goals. Research by (Emda Amna, 2017) shows that intrinsic motivation has a strong relationship with success in various activities, including extracurricular activities such as sports. In the context of basketball, intrinsic motivation encourages students to practice regularly, hone their skills, and increase their participation in the team, which ultimately has a positive impact on increasing their learning motivation.

However, despite general awareness of the benefits of participating in extracurricular activities, there is still a significant knowledge gap regarding the specific impact of extracurricular basketball activities on students' learning motivation in quantitative terms. The main problem that needs to be addressed is not only the lack of strong empirical evidence, but also the behavioral manifestations of low learning motivation that are often seen in students. Indicators such as frequent tardiness to practice, lack of enthusiasm during practice sessions, and even indiscipline in following the coach's instructions

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can be early signs of this motivation problem. (Dings & Spinath, 2021) This gap in understanding is important to fill because the implications of low motivation can extend from performance in extracurricular activities to overall academic achievement. Previous studies (S. Luo et al., 2023) have often been correlational or qualitative in nature, have not deeply measured direct effects through designs that allow for causal conclusions, and have not explicitly linked behavioral indicators to learning motivation in the context of basketball.

The importance of intrinsic motivation in influencing student performance in various aspects of life, including academics, has been proven in many studies. For example, research conducted by (Indraharsani & Budisetyani, 2018) shows that intrinsic motivation is positively related to student achievement in various fields, including sports and academics. When students feel motivated by their personal interests and desires, they tend to be more focused and committed to learning, and are better able to overcome the challenges they face. Extracurricular basketball activities can be an effective means of increasing student learning motivation (García-González et al., 2020). Success in sports, such as improved skills or winning games, can boost students' self-confidence and motivate them to perform better in school (Hidayat et al., 2023).

This study aims to fill this gap by using a pretest-posttest control group design. This design allows researchers to quantitatively measure the impact of participation in basketball extracurricular activities on changes in student learning motivation, both before and after the intervention. With this approach, it is possible to identify direct effects while controlling for external variables that may influence the results (Torstveit et al., 2018). This approach allows for the identification of the specific impact of basketball on learning motivation, which has not been widely explored by previous studies. Thus, this study also aims to answer two main questions: (1) is there a difference in learning motivation between students who actively participate in basketball extracurricular activities and those who do not, and (2) is there a significant change in students' learning motivation before and after participating in these activities? By examining this, the study is expected to contribute theoretically to the literature on sports education and learning motivation, as well as practically to schools in developing more effective and evidence-based extracurricular programs.

With the expected results showing an increase in learning motivation in the experimental group, this research not only provides empirical validation of the assumption that sports can increase learning motivation, but also serves as a basis for formulating physical activity-based intervention strategies to overcome low learning motivation among students.

METHOD

This study used a pretest-posttest control group design, involving two groups: an experimental group that participated in basketball extracurricular activities and a control group that did not participate in extracurricular activities. Both groups' learning motivation was measured before and after participating in extracurricular activities.

The population in this study was 234 eighth-grade students at SMP Negeri 6 Halmahera Selatan. (López, 2023) The research sample was taken using purposive sampling, consisting of 70 students, with the criteria being students who actively participated in basketball extracurricular activities and students who did not participate in such activities.

Data collection in this study was conducted using a validated questionnaire. This instrument showed adequate reliability with internal consistency values ranging from 0.75 to 0.83 on different subscales to measure student learning motivation. The learning motivation questionnaire used was adapted from the Self-Determination Scale (SDS) developed by Sheldon & Deci with the latest validation conducted by (Muttaqin, 2023) in the Gadjah Mada Journal of Psychology. This instrument consists of 10 questions divided into two subscales, namely self-awareness and opportunity to make choices, each consisting of 5 items. The measurement for each item uses a Likert scale with five response options, ranging from 1 to 5 statements that best fit the respondent.

Data collection was carried out in three stages:

1. Pretest: Initial measurement of learning motivation before treatment (basketball extracurricular activities).
2. Treatment: The experimental group participated in basketball extracurricular activities for 3 weeks with a training frequency of once a week.

3. Posttest: Re-measurement of learning motivation in both groups after participating in extracurricular activities.

The data obtained will be analyzed descriptively to describe the characteristics of the research sample and using an independent t-test to compare the differences in pretest and posttest scores between the two groups.

RESULTS AND DISCUSSION

Research result

Based on the data analysis, it can be seen that there was a significant increase in student learning motivation after participating in basketball extracurricular activities. Descriptive results show that the average learning motivation score on the pretest was 28.40, with a standard deviation of 2.670. After the extracurricular activities took place, on the posttest, the average learning motivation score of students increased to 30.80 with a standard deviation of 2.153.

Table 3.1 Descriptive Statistical Analysis

	<i>Mean</i>	<i>Std. Deviasi</i>
<i>Pre-test</i>	28.40	2.670
<i>Post-Test</i>	30.80	2.153

The results of the One-Sample Kolmogorov-Smirnov test show that the distribution of pretest and posttest data follows a normal distribution, which ensures that further analysis can be carried out without any problems. The Asymp. Sig. (2-tailed) values for the pretest and posttest are 0.165 and 0.075, respectively, which are greater than 0.05, indicating that these two data sets do not deviate significantly from the normal distribution.

Table 3.2 Normality Test - Kolmogorov-Smirnov

	<i>Pre-Test</i>	<i>Post-Test</i>
<i>Mean</i>	28.40	30.80
<i>Std. Deviasi</i>	2.670	2.153
<i>Test Statistic</i>	.127	.141
<i>Asymp. Sig. (2-tailed)</i>	.165 ^c	.075 ^c

Next, the Wilcoxon Signed Ranks Test was used to test for significant differences between the pretest and posttest. The test results showed a Z value of -3.336 with an Asymp. Sig. (2-tailed) of 0.001, which is less than 0.05. This indicates that there was a significant difference between the pretest and posttest scores, with most students (26 out of 35) experiencing an increase in scores after participating in basketball extracurricular activities.

Table 3.3 Wilcoxon Signed Ranks Test

	<i>Pos-test & Pre-test</i>
<i>Z</i>	-3.336 ^b
<i>Asymp. Sig. (2-tailed)</i>	.001

DISCUSSION

The increase in student learning motivation after participating in basketball extracurricular activities confirms the hypothesis that participation in sports activities can increase student motivation to learn. These results are in line with previous research findings which show that sports extracurricular activities, such as basketball, can facilitate the development of students' intrinsic motivation (Wulf &

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Lewthwaite, 2016). Self-Determination Theory (SDT) by (Pelikan et al., 2021) provides a strong theoretical framework for understanding this phenomenon, explaining that the fulfillment of basic psychological needs such as autonomy and competence can increase intrinsic motivation. Intrinsic motivation leads to higher engagement in the activities undertaken, and in this case, basketball activities have a positive impact on increasing students' learning motivation. The Wilcoxon test results show that most students who participate in basketball activities experience an increase in learning motivation, indicating that physical activity in the form of sports can improve students' attitudes and behavior towards their academic learning. One reason for this increase could be the success they achieve in basketball activities, such as improved playing skills or winning games, which in turn boosts their confidence and motivates them to perform better at school (Harvey et al., 2017).

However, it is important to note that not all students showed an increase in learning motivation; a small number actually experienced a decline in scores. This phenomenon requires further analysis and may be linked to several factors. (Glandorf et al., 2025) highlight that physical burnout due to high training intensity, mismatched personal expectations of the activity, lack of social support, or schedule conflicts between extracurricular activities and academic tasks can cause stress and decreased motivation. Additionally, (Moore & Weiller-Abels, 2020) in their study on the motivational climate in physical education, showed that students' varying experiences with their psychological needs can result in diverse motivational profiles. This indicates that the effectiveness of sports programs needs to consider the individual characteristics of students. Therefore, schools should continue to support and facilitate extracurricular activities that can increase student learning motivation, thereby contributing to their academic achievement (Berti et al., 2023).

Furthermore, statistical analysis shows that there is a significant difference between students' pretest and posttest learning motivation scores. With a Z value of -3.336 and $p = 0.001$ from the Wilcoxon Signed Ranks Test, it can be statistically concluded that participation in basketball activities has a real effect on increasing learning motivation. These results also indicate the effectiveness of extracurricular activities as a means of non-formal educational intervention to support the achievement of formal academic goals. However, not all students experienced an increase in motivation. A small number of students actually showed a decrease in learning motivation scores after participating in extracurricular activities. This phenomenon is important to analyze further. (Rehman et al., 2020) Some possible causes include: (1) physical burnout, because high-intensity training can cause fatigue and loss of interest; (2) mismatch between personal expectations and basketball activities; (3) lack of social support, such as encouragement from family or peers; or (4) schedule conflicts between extracurricular activities and academic tasks, causing stress.

In addition, factors such as gender, learning style, and initial skill level can also affect the extent to which sports activities can increase student motivation to learn. Research (Van Tam et al., 2022) shows that autonomous motivation can have different effects depending on the social and cultural context, so it is important to consider the local characteristics of students when designing and evaluating extracurricular programs.

Furthermore, when viewed from a holistic educational approach, activities such as basketball not only indirectly strengthen cognitive aspects, but also develop students' affective and psychomotor aspects. This is in line with the view (Opstoel et al., 2020) that physical education and sports play an important role in shaping personality and character, such as cooperation, discipline, responsibility, and the ability to resolve conflicts. Basketball also provides a space for students to experience goal-setting and feedback, two important elements in the formation of learning motivation. Students get used to setting targets, such as improving shooting accuracy or winning games, and receiving direct feedback from coaches and teammates (Atkinson et al., 2022). This process creates a growth mindset that is also useful in the context of academic learning. The implications of these results for the world of education

are vast. Schools need to view extracurricular activities not merely as additional activities, but as an integral component of strategies to improve the quality of education. (Thompson et al., 2022) Schools can facilitate student involvement in sports activities by: providing competent coaches who care about student development, creating a balanced schedule between academic and non-academic activities, monitoring changes in student attitudes and motivation, and involving parents in supporting their children's positive activities.

In addition, (Solari et al., 2023) to increase the effectiveness of basketball extracurricular programs in influencing learning motivation, a more personalized and interest-based approach is needed. (Weeldenburg et al., 2020) Each student has different needs and motivations; thus, involvement in sports must be tailored to provide a meaningful experience. Finally, the results of this study open up opportunities for further exploration. For example, how do the effects of extracurricular activities differ between team sports such as basketball and individual sports such as athletics? Or, to what extent can involvement in extracurricular activities influence other dimensions such as actual academic achievement, psychological well-being, or social skills? Further quantitative research and qualitative approaches can enrich our understanding of the complex relationship between physical activity and student academic motivation

CONCLUSION

This study found that participating in extracurricular basketball activities can help students become more motivated to learn. These activities make them feel more confident, independent, and able to develop their potential, thereby increasing their intrinsic motivation. In addition, involvement in this sport also encourages a growth mindset and trains life skills that are useful in facing academic challenges. However, there are a small number of students who actually experience a decrease in motivation due to fatigue, differing expectations, or schedule conflicts, so schools need to design more flexible extracurricular programs so that all students can reap the benefits.

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