



Analysis of Recreational Sports on Intrinsic Motivation to Write a Thesis in Final Semester Sports Science Students

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Article Info

Article history:

Received 25 February 2026

Received in revised form 13

March 2026

Accepted 22 May 2026

Keywords:

Recreational Sports

Intrinsic Motivation

Thesis

Abstract

This study aims to examine the relationship between recreational exercise and intrinsic motivation in final year students of the Sport Science Study Program, Semarang State University, class of 2022, in completing their theses. Using a quantitative correlational approach with a descriptive design, a sample of 23 students was drawn through purposive sampling, and data were collected via the IPAQ short form questionnaire for physical activity and the IMI for intrinsic motivation. Analysis included normality, linearity, and Spearman correlation tests using SPSS 26. The results showed a "high" level of physical activity (average 1637,348 MET-minutes/week), "fair" intrinsic motivation (average 5.67/7), an abnormal distribution of physical activity (sig. <0.05), normal motivation (sig. >0.05), a linear pattern (sig. 0.509>0.05), but no significant correlation (sig. 0.874>0.05). In conclusion, the frequency of recreational exercise was not significantly related to increased intrinsic motivation for the thesis, likely due to the homogeneity of the sample. The frequency of recreational exercise was not significantly related to increased intrinsic motivation for the thesis, possibly due to the homogeneity of the sample.

Introduction

Final-semester students often face a variety of complex academic challenges, particularly in completing final assignments such as theses. Stress levels increase due to deadline pressures, course load, and complex research methodology challenges (Janura & Ahyanuardi, 2021). This phenomenon has worsened in the era of the pandemic and the digital transition, with many students experiencing decreased productivity, persistent procrastination, and even symptoms of burnout that hinder their academic progress (Ardi et al., 2025).

Data from a national survey shows that more than 60% of final-semester students in Indonesia experience delays in completing their theses by more than one semester, which not only impacts their GPAs but also their post-graduation career opportunities (Calvo et al., 2010). These problems are often rooted in poor time management, minimal social support, and psychological factors such as low self-confidence in dealing with lecturer revisions (Ikram & Shadia, 2022). Therefore, a thorough understanding of the dynamics of these academic issues is crucial for finding effective solutions for final-semester students (Kulsum & Manshur, 2025; Othman et al., 2026; Dunlap, 2005).

Motivation comes from the Latin word *movere*, meaning "push" or "driving force." Various experts have defined motivation from different perspectives, but the essence is the same: as an internal force that transforms individual energy into real activities with the aim of achieving certain goals (Sinurat et al., 2025). In (Arianti, 2018) said that motivation is an internal condition or status (sometimes interpreted as a need, desire, or passion) that directs a person's

behavior to actively act in order to achieve a goal. There is another definition that states that motivation is a will drive that causes a person to do something to achieve a certain goal.

A more complete definition of motivation according to (Zuriaturizky & Ghasya, 2024), motivation is defined as a force, drive, need, enthusiasm, pressure, or psychological mechanism that drives a person or group of people to achieve certain achievements according to what they want. From the perspective of human behavioral psychology, motivation not only plays a role as a driving force for humans in general, but can also be categorized into two main groups according to its origin, namely intrinsic and extrinsic motivation (Aurellia & Wardana, 2025). In particular, intrinsic motivation is the main focus in this discussion because it arises from within each individual such as personal interest, internal satisfaction, or a sense of achievement without attachment to external rewards for each individual (Saleh et al., 2024).

Intrinsic motivation is a drive that arises from within an individual to achieve a specific goal (Nafian, 2025). Intrinsic motivation is also defined as motives that become active or functional without the need for external stimulation, as the individual already has a drive to do something (Fitriya et al., 2025). In relation to learning, intrinsic motivation plays a core role in overcoming academic obstacles for final year students, as internal drives such as curiosity, personal satisfaction, and internal values tend to be more sustainable than extrinsic motivation that relies on external rewards such as grades or degrees (Rismayanti et al., 2023).

Educational psychology research, such as Deci and Ryan's Self-Determination Theory, confirms that intrinsic motivation increases persistence, creativity, and the quality of final project output, thereby reducing the risk of dropping out or postponing a thesis. According to Dewi et al. (2025), Suminar et al. (2025), Maulidiyah et al. (2025) said that, In the Indonesian context, where a competitive culture often emphasizes external achievement, developing intrinsic motivation through self-reflection and personal goals can be key to building academic resilience (bouncing back from failure). In today's modern era, sports activities have become an essential need for people with busy daily routines (Cojocararu et al., 2022; Katz, 2000).

Amidst this busy schedule, exercise is necessary to refresh the body tired from daily activities (Andalasari & BL, 2018). Recreational sports play a role in restoring health and fitness, while also relieving boredom and helping optimize mental health (Hidayat & Indardi, 2015; Martín-Rodríguez et al., 2024). Recreational sports, such as light jogging, hiking, casual soccer, or yoga, play a vital role in increasing the intrinsic motivation of final year students by reducing stress, increasing endorphins, and improving cognitive brain function, which supports concentration in learning (Setiawan et al., 2024).

These non-competitive physical activities do not require high intensity, making them suitable for students busy with their thesis work, while also providing a relaxing space to refresh the mind from the tiring academic routine. In Indonesia, campus sports programs such as student futsal or morning exercise have been proven effective in reducing levels of academic depression (Lubis et al., 2025). In other words, recreational sports are not just entertainment, but strategic tools for optimizing the mental performance of final year students.

Recreational sports have now become a lifestyle that not only supports physical health but also improves mental and social well-being (Sandayanti et al., 2021; Street et al., 2007; Vella et al., 2023). Activities such as trail running and hiking in nature have become routines that can help individuals manage stress, increase self-efficacy, and build intrinsic motivation, as discussed in sports psychology theory.

Based on the explanation above, it can be concluded that recreational sports have a strategic role in increasing the intrinsic motivation of final year students, so that the thesis writing process becomes smoother and more-timely by reducing stress and improving learning

concentration. Light physical activities such as jogging, casual futsal, or yoga, done regularly can build mental resilience and study habits that are very important for overcoming the habit of procrastination. Therefore, this study is necessary to conduct a more in-depth study of the relationship between sports and motivation so that students can more easily complete their theses with better results.

Methods

This study employed a quantitative approach with a correlational research design. This approach was selected because the study aimed to examine the statistical relationship between recreational sports participation and intrinsic motivation in writing a thesis among final semester students. A correlational design is appropriate when the researcher does not manipulate variables, but seeks to determine whether two measured variables are related to one another. In this study, recreational sport was treated as the independent variable, while intrinsic motivation in writing a thesis was treated as the dependent variable. The study also used a descriptive component to present the level of students' physical activity and intrinsic motivation before testing the relationship between the two variables. Descriptive research is useful for systematically explaining the characteristics of a phenomenon without intervention or manipulation of variables (Solheim et al., 2017), while correlational analysis is used to identify and measure the strength and direction of relationships between variables (Ma et al., 2026).

The population of this study consisted of students from the 2022 cohort of the Sports Science Study Program, Faculty of Sports Science, Semarang State University. The sample included 23 students who were actively working on their final thesis. The sampling technique used was purposive sampling, which is a non-random sampling technique in which participants are selected based on specific criteria relevant to the research objective. This technique was considered appropriate because the study specifically focused on final semester students who were experiencing the thesis writing process. The inclusion criteria were students who belonged to the 2022 cohort, were enrolled in the Sports Science Study Program, and were currently preparing or completing their thesis. Purposive sampling allows researchers to select respondents who possess characteristics that are directly related to the research focus (Tajik et al., 2025).

Data were collected using an online questionnaire distributed through Google Forms from February 21 to February 25, 2026. The questionnaire consisted of two main instruments. Recreational sport or physical activity was measured using the short form of the International Physical Activity Questionnaire. The IPAQ short form measures physical activity based on walking, moderate activity, and vigorous activity performed by respondents during the last seven days (International Physical Activity Questionnaire, 2003; Maddison et al., 2007). The use of IPAQ was considered suitable because it provides a standardized measure of physical activity and has been widely used in physical activity research. The IPAQ score was calculated using the standard MET minutes per week formula. Walking activity was multiplied by 3.3 METs, moderate activity by 4.0 METs, and vigorous activity by 8.0 METs. Activities lasting less than 10 minutes were scored as zero, while activity duration exceeding 180 minutes per day was truncated to 180 minutes according to the IPAQ data processing guideline (Guidelines for Data Processing and Analysis of the International Physical Activity Questionnaire Short Form, 2004).

Intrinsic motivation was measured using the Intrinsic Motivation Inventory, particularly the interest and enjoyment subscale, because this subscale is commonly regarded as the primary indicator of intrinsic motivation. The IMI was used to assess students' internal interest,

enjoyment, and personal engagement in thesis related academic activities. The responses were scored using a seven point scale. Negatively worded items were reverse scored before calculating the final score. Reverse scoring was applied to items 8, 12, 14, 18, 20, and 24 by subtracting the respondent's answer from 8. After reverse scoring, the score for the interest and enjoyment subscale was calculated by averaging the relevant item scores, namely items 3, 5, 7, 11, 12, 15, 17, and 23 (Intrinsic Motivation Inventory, 1994). A higher average score indicated stronger intrinsic motivation.

The IPAQ short form and IMI were adapted into Indonesian and adjusted to the context of Sports Science students at Semarang State University. The adaptation was conducted to ensure that the questionnaire items were understandable, contextually appropriate, and relevant to the respondents' academic situation. The adaptation process focused on preserving the original meaning of each item while making the wording suitable for Indonesian students and the context of thesis completion. This adjustment was important because the original instruments were developed in English, while the respondents completed the questionnaire in an Indonesian academic context.

The data were analyzed using SPSS version 26. Descriptive statistics were first used to present the minimum score, maximum score, mean, and category of each variable. Before conducting the correlation test, assumption testing was carried out through normality and linearity tests. The normality test was used to examine whether the physical activity and intrinsic motivation data were normally distributed. The linearity test was used to determine whether the relationship between recreational physical activity and intrinsic motivation followed a linear pattern. Since the physical activity data were not normally distributed, the Spearman rank correlation test was used to examine the relationship between recreational sport and intrinsic motivation. The significance level was set at 0.05. A significance value lower than 0.05 indicated a statistically significant relationship, while a significance value higher than 0.05 indicated that the relationship between the variables was not statistically significant.

Results and Discussion

The table presents data on students' physical activity and intrinsic motivation. Data were obtained by completing the International Physical Activity Questionnaire (IPAQ) short form and the Intrinsic Motivation Inventory (IMI). Analysis included normality, linearity, and correlation tests.

Table 1. Statistical Description

Variabel	N	Min	Max	Mean	Description
Physical Activity	23	299	6570	1637,348	High
Intrinsic Motivation	23	4,375	6,625	5,67	Fairly Good

Based on the results of the statistical description test, the minimum score for physical activity was 299, while the maximum score was 6570, with an average of 1637.348. This indicates that the Sports Science students of the Class of 2022 are in the "High" category. The minimum score for intrinsic motivation was 4.375, while the maximum score was 6.625, with an average of 5.67. This indicates that the students' intrinsic motivation is in the "fair" category.

Table 2. Normality Test

	N	Statistic	Sig.	Description
Physical Activity	23	0,707	0,000	Not Normal
Intrinsic Motivation	23	0,940	0,184	Normal

Based on the results of the normality test, it was found that students' physical activity was not normally distributed because the sig. value was <0.05 . Meanwhile, students' intrinsic motivation was normally distributed because the sig. value was >0.05 .

Table 3. Linearity Test

	N	Sig.	Description
Physical Activity	23	0,509	Linear
Intrinsic Motivation	23	0,509	Linear

The results of the linearity test in the table above indicate that physical activity and students' intrinsic motivation are linear, as the significance value is 0.509, which is greater than 0.05.

Table 4. Correlation Test (Spearman)

Variable	N = 23			
	Physical Activity		Intrinsic Motivation	
	Correlation coefficient	Sig.	Correlation coefficient	Sig.
Physical Activity	1	-	- 0,035	0,874
Intrinsic Motivation	- 0,035	0,874	1	-

Based on the results of the Spearman correlation test outlined in the table above, it is known that physical activity and intrinsic motivation are not related or correlated, as the significant value is 0.874, which is greater than 0.05.

Based on the results data presented above, it is known that the physical activity of Sport Science students in the Class of 2022 ranges widely from 299 to 6570 MET-minutes/week with an average of 1637.348, which means that Sport Science students are in the “High” category according to the IPAQ guidelines (Lee et al., 2011). This category indicates that respondents met the criteria of ≥ 3 days of vigorous PA (≥ 20 minutes/day) OR a combination of activities ≥ 5 days a week that achieved ≥ 1000 MET-minutes/week. The mean IPAQ score indicates a relatively high overall level of physical activity in the sample, while the specific composition and context of these activities were not explored in the reported analyses. Furthermore, intrinsic motivation shows a score ranging from 4.375 to 6.625 with an average of 5.67 on a scale of 1-7, which means it is at a “fairly good” level. This value reflects a strong internal drive to exercise, particularly in terms of interest and enjoyment. This aligns with research showing that students tend to have dominant intrinsic motivation (58.32%) during light and enjoyable recreational exercise (Zuriaturizky & Ghasya, 2024).

Furthermore, regarding the distribution of data from the normality test, physical activity was not normally distributed because the sig. <0.05 . This is common in IPAQ data, as it tends to be right-skewed due to the presence of highly active respondents. Conversely, intrinsic motivation was normal because the sig. <0.05 , consistent with the more uniform nature of the IMI scale across respondents. Furthermore, regarding the pattern of relationships between variables (Eye et al., 2009; Elmore & Vasu, 1980), the linearity test indicated that physical activity and intrinsic motivation moved in the same direction (sig. $0.509 > 0.05$), meaning there were no deviations in the relationship pattern that would interfere with further analysis. In the end, the correlation analysis data conducted using the Spearman correlation pattern showed no significant relationship (sig $0.874 > 0.05$), which illustrates the relative independence of the two variables in this sample, different from several local studies that found moderate correlations although not too strong (Kuncoro & Rahayu, 2023).

Conclusion

Overall, the findings of this study highlight that although final year students in the Sport Science Study Program at Semarang State University, Class of 2022, demonstrated high levels of physical activity and relatively good intrinsic motivation, the frequency of recreational exercise did not significantly correlate with increased intrinsic motivation in the context of completing their thesis. This is illustrated by the non-significant Spearman correlation ($\text{sig. } 0.874 > 0.05$), although the linear relationship between the variables was confirmed without deviation ($\text{sig. } 0.509 > 0.05$). This finding differs from several previous local studies that reported moderate correlations, likely because this sample was homogeneous, consisting of sports students with already high baseline activity levels, so the additional effect of recreational exercise was not dominant. However, other factors such as academic support, stress management, or extrinsic motivation may have a greater impact on the thesis writing process.

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