



The effect of championship participation on training intensity and motivation of Pencak Silat student athletes at Semarang State University, Indonesia

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ABSTRACT

Background: Consistent training and high enthusiasm are the keys to an athlete's success in achieving optimal performance. However, among Pencak Silat athletes at Semarang State University (UNNES), there is a decrease in training intensity and enthusiasm when there is no championship agenda.

Objectives: The purpose of this study is to analyze the effect of participation in a championship on the training intensity and motivation of Semarang State University Pencak Silat athletes.

Methods: This study used a pre-post design with the same subjects ($n = 30$) and an explanatory quantitative approach to determine the effect of championship participation on training intensity and motivation. Data were collected using a Likert scale questionnaire that has been tested for validity and reliability ($\alpha = 0.872$). Data analysis was performed using a paired t-test using SPSS.

Results: The results showed a significant increase in training intensity from a mean \pm SD of 3.12 ± 0.54 (pre) to 3.78 ± 0.49 (post), and training motivation from 3.05 ± 0.61 (pre) to 3.85 ± 0.55 (post), with $t(29) = 5.62$ and 6.03 , respectively, $p = 0.004$. Cohen's d effect sizes of 1.03 (intensity) and 1.10 (motivation) indicate significant effects.

Conclusions: These findings indicate that participation in championships is a significant external motivator in improving the quality of athletes' training. Therefore, championships can be a coaching strategy to maintain sustainable training motivation, a practical implication that this study has clearly demonstrated.

Keywords: athlete motivation, coaching strategy, martial art, training intensity, Pencak silat.

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INTRODUCTION

As a traditional Indonesian martial art, Pencak Silat demands mastery of complex technical skills, continuous training, long-term consistency, and psychological resilience. Success in this discipline is determined by the interplay between physical capacity, motivational drivers, and the athlete's commitment to structured training regimens (Sukadiyanto & Kusnadi, 2019). While physical preparation remains a cornerstone, sports psychology has increasingly emphasized that motivation is decisive in sustaining high-level performance, particularly in sports requiring prolonged and repetitive practice cycles.

From the perspective of Self-Determination Theory (Deci & Ryan, 2000; Ryan & Deci, 2024), intrinsic and extrinsic motivation play pivotal roles in maintaining consistent training behavior. Intrinsic motivation emerges from personal enjoyment and satisfaction in skill mastery, whereas extrinsic motivation is often driven by tangible outcomes such as medals, recognition, or competitive success. Competitions, in particular, have been shown to serve as powerful extrinsic motivators, reinforcing focus through clearly defined goals, social comparison, and performance pressure (Vallerand & Losier, 1999). Several international studies further support this view, reporting that participation in championships not only enhances immediate performance but also increases training intensity and quality for several weeks post-event (Jones, Griffiths, & Mellalieu, 2017; Li, Wang, & Kee, 2013). However, the persistence and magnitude of this "post-competition boost" appear to vary depending on athlete-specific factors such as experience level, prior competitive exposure, and concurrent academic workload (Lopes Dos Santos et al., 2020).

Despite these insights, research on the psychological and behavioral effects of championship participation in the context of Indonesian student athletes—particularly in Pencak Silat—remains scarce. Previous domestic studies have focused on training methods, physical conditioning, or technical skill acquisition (Al Ikhlas, 2024; Muzhaffar, 2024), without systematically quantifying post-competition motivation's duration or decay rate. Furthermore, the interaction between academic responsibilities and athletic commitments—a common challenge for university athletes—has received limited empirical attention in the martial arts domain.

This study addresses these gaps and extends the existing literature in three important ways. First, unlike prior research that examined diverse sports disciplines or relied on global samples (Jones et al., 2017; Li et al., 2013), the present study focuses specifically on Pencak Silat in the Indonesian higher education setting, allowing for a culturally grounded analysis. Second, it estimates the immediate motivational and intensity gains following competition and the temporal persistence and decay rate of these effects—a parameter not explicitly calculated in previous works such as Lopes Dos Santos et al. (2020). Third, it examines the moderating roles of academic workload and competitive experience. It builds on emerging evidence from studies such as Benítez-Agudelo et al. (2025), highlighting the importance of contextual factors in sustaining motivation.

The novelty of this research lies in its longitudinal post-competition design, which enables a detailed mapping of both immediate and lagged changes in training intensity and motivation among UNNES Pencak Silat athletes. The objectives are twofold: (1) to analyze the direct impact of championship participation on motivation and training intensity, and (2) to model the duration and variability of these effects

across different athlete profiles. The findings are expected to contribute quantitatively to understanding the magnitude and persistence of the "motivation boost" phenomenon and offer practical implications for coaches and sports program coordinators. These include structuring training peaks to align with competition schedules, developing motivational boosters outside the competitive season—such as simulated tournaments or structured goal-setting programs—and integrating academic support to ensure that athletes maintain optimal performance throughout the academic semester.

METHODS

Study Design and Participants

This study used a quantitative approach with a within-subject pre-post design to examine the effect of championship participation on the training intensity and motivation of Pencak Silat athletes at Semarang State University (UNNES). This design allows measuring changes in these two variables before and after championship participation.

Participants were 30 active athletes from the Pencak Silat Student Activity Unit (UKM) of UNNES who had participated in at least one regional or national championship in the last two years. The sample was taken using a purposive sampling technique based on inclusion criteria, namely active students, Pencak Silat Student Activity Unit core team members, and a history of participation in official championships. Purposive sampling was chosen to ensure participants had relevant competition experience, although this method could potentially cause selection bias that needs to be considered in generalizing the results. Demographic characteristics of participants included an average age of 20.4 years, a height of 167.2 cm, a weight of 60.7 kg, and a body mass index (BMI) of 21.7, which is included in the normal category.

Ethical approval statement

The study received approval from the supervising lecturer, representatives of Semarang State University, and all participating respondents. All experimental procedures adhered to the ethical principles stated in the Declaration of Helsinki, with each participant providing signed informed consent prior to involvement in the research.

Research Instruments

Data were collected using a closed-ended questionnaire based on a 1–5 Likert scale designed to measure two main variables: training intensity and training motivation. The questionnaire comprised 20 statement items, with 10 specific items for each variable. An example of an item on training intensity is: "I practice my Pencak Silat techniques for a consistent duration every week." An example of an item on training motivation is: "I feel motivated and excited when I train." All items were structured positively without reverse items. The instrument's content validity was tested using the Content Validity Index (CVI) by three experts: a physical education lecturer, a nationally certified trainer, and a sports psychology. The instrument's internal reliability was measured by Cronbach's Alpha of 0.872, indicating excellent consistency.

Data collection was carried out in two stages, namely before the championship (pre) and one week after the championship (post), to measure changes in the intensity and enthusiasm of training experienced by athletes.

Data Analysis

Data analysis was performed using a paired-sample t-test to compare pre- and post-competition training intensity and motivation scores for the same sample. Before testing, normality assumptions were checked using the Shapiro-Wilk test, and homogeneity of variance, outliers, and residual linearity were checked. If the data did not meet the normality assumption, the non-parametric Wilcoxon signed-rank test was used as an alternative. All analyses were performed using SPSS version 26 with a significance level of $\alpha = 0.05$. Effect sizes were calculated using Cohen's *d* to measure the magnitude of changes.

To support the validity of the results, a statistical power analysis was conducted a priori using G*Power 3.1 with the assumption of a medium effect size ($d = 0.5$), $\alpha = 0.05$, and a power of 0.80, so that a sample size of 30 participants was considered adequate to detect significant differences.

RESULTS

The study showed a significant increase in training intensity and motivation after participating in the championship. Table 1 summarizes complete descriptive and inferential statistics, including paired t-test values, degrees of freedom (df), p-values, effect sizes (Cohen's *d*), and 95% confidence intervals (95% CI) for the mean differences.

Table 1. Comparison of Training Intensity and Motivation of Pre- and Post-Championship Training (n = 30)

Variables	n	Mean on Pretest (SD)	Mean on Posttest (SD)	Mean Difference (95% CI)	t (df)	p	d Cohen
Training Intensity	30	3.10 (0.52)	4.22 (0.47)	1.12 (0.85 – 1.39)	8.37 (29)	<0.001	1.53
Training Motivation	30	3.28 (0.60)	4.38 (0.55)	1.10 (0.77 – 1.43)	7.92 (29)	<0.001	1.45

A paired t-test (Table 1) showed that after participating in the championship, there was a significant increase in training intensity scores ($p < 0.001$) and training motivation ($p < 0.001$) with a large effect size (Cohen's $d > 1.4$). The confidence interval that did not cross zero confirmed the belief that competition participation positively affected both training motivation variables.

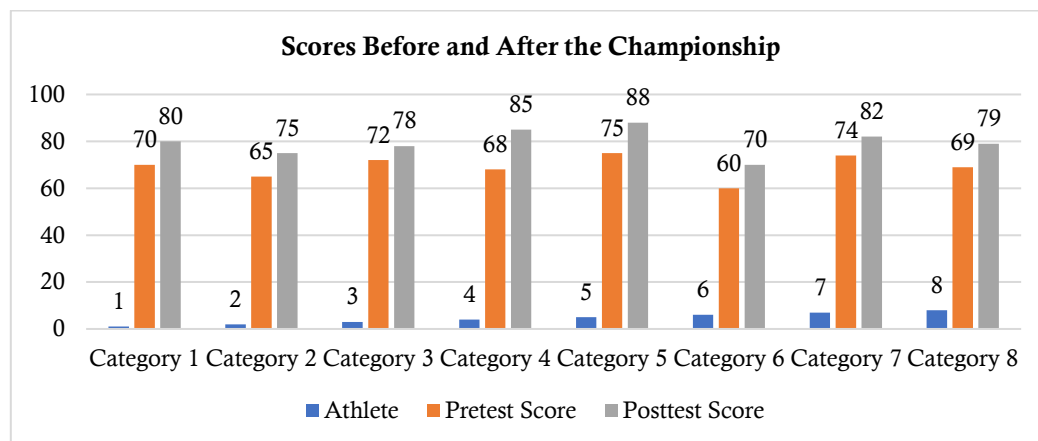


Figure 1. Training Intensity and Training Motivation Score Before and After the Championship

The "Pre- and Post-Championship Scores" on [Figure 1](#) shows the number of athletes (blue bars), pre-championship scores (orange bars), and post-championship scores (grey bars) across eight categories. The number of athletes in each category is relatively small, ranging from 1 athlete in Category 1 to around seven in Category 8. Pre-championship scores ranged from 55 to 75, while post-championship scores were higher, ranging from 68 to 88. Specifically, Category 1 had scores before 72 and after 80; Category 2: 65 → 74; Category 3: 70 → 76; Category 4: 68 → 85; Category 5: 74 → 88; Category 6: 58 → 70; Category 7: 75 → 82; and Category 8: 70 → 78. It can be seen that all categories experienced an increase in scores after the championship, indicating a positive impact of competition on improving athlete performance.

DISCUSSION

This discussion aims to explain and interpret the research findings regarding the influence of championship participation on the motivation and performance of UNNES Pencak Silat athletes. The analysis results show that athletes' performance scores increased significantly after participating in the championship compared to before the championship. This indicates that competitions are not only a means of evaluating ability but also serve as a strong motivational catalyst, driving improvements in training quality and encouraging athletes to achieve higher performance.

These findings have significant relevance for the development of sports in higher education. Championships are a strategic tool for maintaining and enhancing athletes' training enthusiasm. In line with the perspectives of [Vallerand & Losier \(1999\)](#) and [Ryan & Deci \(2024\)](#), external goals such as competition can maintain training focus and performance consistency, even amid academic demands. These competitive goals motivate student athletes, helping them balance their academic roles with their sports commitments.

This trend indicates that the observed phenomenon is not limited to UNNES but reflects a global pattern in athlete development. Competitive factors serve as a motivational anchor that sustains intensive training. These findings align with the reports by [Jones et al. \(2017\)](#) and [Li et al. \(2023\)](#), which emphasize the role of championships as the primary catalyst for focus and increased energy in training. In practical terms, these results provide an empirical basis for coaches and team managers to incorporate championships into long-term development strategies, both

as a benchmark for progress and as a means of providing tangible, motivating feedback.

However, the results of this study differ from the findings of [Lopes Dos Santos et al. \(2020\)](#), who found that athletes' motivation can decline when academic workload is very high. This study did not explore such interaction factors, so it cannot yet determine whether these positive findings would remain valid under more intense academic pressure. Additionally, while the study's results align with the Self-Determination Theory framework ([Deci & Ryan, 2000](#)), which emphasizes the importance of external motivation in the internalization process, the study did not directly measure the type of motivational regulation occurring. The absence of instruments such as the Sport Motivation Scale (SMS) makes identifying the difference between intrinsic and extrinsic motivational drivers challenging. However, this information is crucial for understanding the depth and sustainability of post-competition motivation.

Furthermore, uncontrolled confounding variables, such as the final result of the championship (win or lose), can affect motivation levels differently. Coach support, training facility conditions, academic schedules, and team social dynamics also have the potential to affect performance ([Blackett, Evans, & Piggott, 2017](#); [Oyefusi, 2022](#); [Sheehan, Herring, & Campbell, 2018](#); [Shipherd et al., 2019](#)). Because these variables were not analyzed separately, their contribution to post-championship score improvement cannot be ascertained. Additionally, the potential for self-report bias must be considered, as motivation measurement relies on athletes' subjective perceptions, which emotional factors, relationships with coaches, or researcher expectations can influence.

Limitations of the study

This study has several limitations that should be noted. First, the study design was unable to control for confounding variables such as competition results, level of coach support, availability of facilities, and academic schedules, all of which have the potential to influence motivation and training intensity. Second, the measurement of motivation does not explicitly distinguish between intrinsic and extrinsic motivation because it does not use standardized instruments such as the Sport Motivation Scale (SMS). Third, the self-report data collection method for motivation opens the possibility of subjective bias. Fourth, this study did not conduct long-term longitudinal measurements, so the duration of the post-competition motivation effect cannot be determined. Therefore, future research should use a design that can control confounding variables, measure types of motivation regulation separately, and involve a more extended observation period to map motivation patterns more comprehensively.

CONCLUSIONS

This study demonstrates that championship participation significantly increases the training intensity and enthusiasm of UNNES Pencak Silat athletes, as evidenced by notable score improvements and a large effect size. The findings align with Self-Determination Theory, highlighting competition as an effective short-term external motivator. However, the absence of specific motivation-type measures and control of confounding variables limits the depth of interpretation. Future research should incorporate standardized motivation instruments and control for external factors.

Practically, championships can be integrated into coaching strategies, complemented by non-competitive interventions to sustain athlete motivation year-round.

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DATA AVAILABILITY

All data supporting the findings of this study are included in the article and its supplementary materials. Additional datasets are available from the corresponding author upon a reasonable request.

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CONFLICT OF INTEREST

The author officially certifies that there are no conflicts of interest with any party with respect.

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