

The Impact of Injury History on Anxiety and Motivation of West Java Student Athletes

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Abstract

Background: Injuries are a risk in sports that affect athletes not only physically but also psychologically, such as through anxiety and motivation. The research problem is the lack of clarity regarding the impact of injury history on the psychological aspects of student athletes.

Objectives: This study aims to determine the effect of injury history on anxiety and motivation among student athletes in West Java. **Method:** The study employed a quantitative approach using simple linear regression analysis on 42 athletes selected through purposive sampling. The instruments included an injury history questionnaire, the General Anxiety Disorder-7, and the Sport Motivation Scale. **Result:** The results showed that injury history did not have a significant effect on anxiety (Sig. = 0.219), but had a near-significant relationship with motivation (Sig. = 0.055), indicating a tendency toward increased motivation. **Conclusion:** The conclusion indicates that injury history does not significantly affect anxiety and only shows a tendency toward motivation; therefore, it cannot be concluded as a statistically significant relationship. These findings underscore the importance of an evidence-based holistic approach in athlete training and recovery.

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INTRODUCTION

Sports injuries not only affect an athlete's physical condition but also have significant psychological consequences, particularly in the form of anxiety and changes in motivation levels. The main issue in this context is that sports injuries are not merely physical setbacks but also give rise to complex psychological consequences, particularly regarding athletes' anxiety and motivation during the recovery process and their return to competition (Covassin et al., 2014; Tranaeus et al., 2024). For athletes, injuries often cause mental stress due to uncertainties about the recovery process, performance declines, and the risk of reinjury, which can ultimately affect competition readiness and performance outcomes (Herfinanda & Rahmandani, 2019; Tranaeus et al., 2024).

Sports are activities that can shape an individual's character and develop their physical and mental potential (Aguss & Yuliandra, 2020; Wahyudi, 2018). Through consistent participation in

sports, many individuals pursue careers as athletes (Putu et al., 2021). However, the high intensity of training and competition increases the risk of injury, which affects not only the athlete's physical condition but also their psychological well-being (Herfinanda & Rahmandani, 2019; Laurel et al., 2023).

Injuries in athletes are often accompanied by anxiety, such as concerns about the recovery process, losing one's position on the team, and fear of re-injury (Marom, 2019). This anxiety can affect an athlete's performance and overall mental well-being (Yu et al., 2024). In the context of sports, anxiety is an emotional response to pressure or the perception of a threat to performance (Darisman et al., 2020; Purnamasari & Novian, 2021). Uncontrolled anxiety levels can disrupt concentration and reduce an athlete's performance during competition (Wijayanti & Hartini, 2021).

On the other hand, motivation is a key factor that drives athletes to continue training, improve, and achieve success (Tušak et al., 2022). Motivation plays a role in determining the direction, intensity, and persistence of athletes' behavior in achieving their goals (Aprilianty, 2018; Fitri et al., 2020). Highly motivated athletes tend to have a strong drive to recover and return to their best performance after sustaining an injury (Khumairah et al., 2024; Yukhymenko-Lescroart, 2021).

Theoretically, the relationship between injury, anxiety, and motivation can be explained through cognitive and motivational psychology. More specifically, this relationship can be explained through the stress-injury model, which emphasizes the interaction between stress, cognitive appraisals, and athletes' emotional responses to injury (Covassin et al., 2014; Tranaeus et al., 2024), as well as Self-Determination Theory, which explains that intrinsic motivation can increase in response to challenges and the need to restore competence (Tušak et al., 2022; Yukhymenko-Lescroart, 2021). An injury can be perceived as a threat that triggers emotional responses such as anxiety; however, it can also serve as a challenge that spurs motivation to recover and return to peak performance. In this context, an athlete's psychological state is influenced by how the individual assesses and responds to the injury experience they have undergone.

Furthermore, in practice, psychological factors such as anxiety and motivation must be addressed alongside physical condition to achieve optimal performance (Dwi Pramesti et al., 2022). A psychological approach to the injury recovery process is also crucial for helping athletes manage mental stress and enhance their readiness to return to competition (Chyi et al., 2024; Covassin et al., 2014).

However, previous research has primarily focused on pre-competition anxiety or motivational factors in isolation, without comprehensively integrating physical condition variables such as injury history (Indonesia & Java, 2025). Furthermore, previous studies have tended to examine anxiety and motivation separately without testing their simultaneous relationship with injury history within a single empirical analytical framework (Chyi et al., 2024; Tranaeus et al., 2024). Consequently, a research gap remains in the form of limited empirical evidence that simultaneously

examines the influence of injury history on athletes' anxiety and motivation, particularly among student-athletes.

Given this background, this study aims to analyze the effect of injury history on anxiety levels and motivation among student athletes in West Java. Specifically, this study aims to examine the predictive relationship between injury history and athletes' anxiety and motivation using a quantitative, regression-based approach. The hypotheses proposed in this study are: (1) injury history affects athletes' anxiety levels, and (2) injury history affects athletes' motivation levels. This hypothesis is based on previous empirical findings indicating a relationship between injury, emotional response, and motivational drive in the context of sports (Covassin et al., 2014; Tušák et al., 2022).

METHOD

This study aims to determine the effect of injury type on the anxiety and motivation levels of student athletes in West Java before competition. This study uses a quantitative approach and a simple linear regression analysis. This design was chosen to align with the research objective, which is to determine the predictive relationship between injury (independent variable) and anxiety and motivation (dependent variables).

Population and Sample

The subjects of this study were active student athletes from West Java representing various sports, such as track and field, pencak silat, taekwondo, tarung derajat, gymnastics, and others. The athletes who served as respondents were selected using purposive sampling, based on several inclusion criteria: (1) they are active student athletes from West Java under coaching, (2) they are between 15 and 18 years old, (3) they have experience participating in official regional or national competitions, and (4) they are willing to complete the questionnaire honestly and voluntarily. The actual sample size in this study was 42 athletes, all of whom met the inclusion criteria as student athletes with competition experience and a potential for sports-related injuries.

Data Collection Methods

Data collection was conducted by distributing a questionnaire comprising three main sections. The first section was a questionnaire on injury history, specifically regarding training or competition.

The injury history variable in this study was operationally defined as any physical injury an athlete has ever sustained during training or competition. The injuries in question range from mild to severe and affect the athlete's sporting activities. In the statistical analysis process, the injury variable was coded dichotomously as follows: 0 = No injury; 1 = Injury.

This coding was used to facilitate quantitative analysis, particularly in simple linear regression as an independent variable. These values are then analyzed using descriptive statistics (mean and standard deviation) and inferential statistics to examine their impact on psychological variables.

The second section was an anxiety level questionnaire that used a standard instrument comprising three personal data questions and seven other questions from the GAD-7 (General Anxiety Disorder-7) (Zahra et al., 2024). The GAD-7 is an efficient and valid screening tool often used for initial anxiety screening in clinical and research settings. It has been shown to have good accuracy for detecting anxiety levels (Prajogo & Yudiantoso, 2021). The anxiety levels on this scale range from 4 for “never” to “almost every day.” The GAD-7 (Generalized Anxiety Disorder-7) has good validity and reliability, with Cronbach’s Alpha values generally exceeding 0.80, making it suitable for measuring anxiety levels.

The third part is a sports motivation questionnaire that uses an adaptation of the SMS-6 (Sport Motivation Scale 6) (Mallett et al., 2007). This measurement is a contextual motivation measure intended to identify the perceived reasons for participating in sports. Participants responded using a 7-point Likert scale, ranging from 1 (not at all) to 7 (exactly). The SMS-6 (Sport Motivation Scale-6) is a validated instrument for measuring sports motivation using a multidimensional approach. The questionnaire was completed individually and without external pressure. This study ensured that each participant understood the meaning of each question item through a brief explanation before the completion process began.

Research Procedures

Preparation Stage: In the initial stage of the research, a preliminary study was conducted to understand the profile of athletes in the West Java boarding school environment and to determine the instruments to be used. The researchers then developed and adapted questionnaires based on validated instruments, namely GAD-7 (General Anxiety Disorder-7) and SMS-6 (Sport Motivation Scale-6), and added a questionnaire on injury history developed by the researchers themselves. These instruments were first tested on a small group of respondents to determine their validity and reliability.

In addition, the study submitted a research permit letter to the West Java student athlete management to ensure the data collection process was carried out officially and in accordance with research ethics.

Data Collection Stage: Data were collected using direct methods. The researcher visited the athletes' training location according to a schedule agreed upon with the coach or manager. The athletes were given an explanation of the research's purpose, their confidentiality rights, and how to complete the questionnaire. After providing informed consent, the athletes completed the questionnaire independently at the West Java student-athlete dormitory, under light supervision from the researcher to ensure legibility and completeness of their answers.

Data Analysis Stage: After data collection, the researchers managed and analyzed the data using statistical software such as SPSS. Descriptive analysis was used to describe the athletes' profiles, injury frequency, and average levels of anxiety and motivation. This study used a quantitative approach and a simple linear regression analysis. This approach was chosen to analyze

the extent to which the injury type variable, as an independent variable, affects two psychological variables, namely anxiety and motivation.

In the Reporting Results stage, the research results are compiled into a scientific report that covers all stages, main findings, the interpretation of results, and a discussion of previous theories and research. In addition, researchers provide practical recommendations for coaches, sports psychologists, and student-athlete managers on the importance of monitoring the psychological condition of athletes with a history of injury as part of their preparation for competition.

RESULT AND DISCUSSION

Result

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	SD
Injury	42	0	1	0.397
Anxiety	42	0	21	5.277
Motivation	42	47	144	18.416

The analysis revealed that the injury variable had a mean value of 0.81 with a standard deviation of 0.397. In this study, the injury variable was operationalized as a dichotomous injury status (0 = no injury; 1 = injury), rather than as a measure of injury type or severity. Therefore, the term “type of injury” in the regression analysis refers to differences in injury status across respondent groups. Thus, the interpretation of the regression results should be understood as a difference between athletes who sustained injuries and those who did not, rather than as a gradual increase on a continuous scale. A high mean indicates that most respondents were injured during the data collection period.

Meanwhile, the anxiety variable had an average of 8.83 and a standard deviation of 5.277, with a score range of 0 to 21. This indicates that the respondents' anxiety levels were in the moderate category, but there was considerable variation in the perception of anxiety among respondents.

As for the motivation variable, the average was 111.33 with a standard deviation of 18.416, ranging from 47 to 144. This relatively high average reflects that the research participants generally had a strong level of motivation. However, the large standard deviation indicates significant variation in motivation levels among individuals.

Overall, these results show that most respondents experienced injuries, had varying levels of anxiety, and showed a fairly high perception of motivation towards the activities or goals being carried out. Before conducting the linear regression analysis, tests of the basic assumptions were performed to ensure the validity of the model used. These tests included checking the normality of the residuals, the linearity of the relationship between the independent and dependent variables, and the homoscedasticity of the errors. Based on the overall results of these checks, the data showed a pattern consistent with the basic assumptions of linear regression; therefore, the

analytical model used in this study was deemed valid for proceeding to the hypothesis testing stage.

Table 2. Simple Linear Regression Anxiety

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.750	1.853		3.642	.001
Type of injury	2.574	2.060	.194	1.249	.219

a. Dependent Variable Anxiety

The linear regression results show that the type of injury has a regression coefficient (B) of 2.574, indicating that, mathematically, the more severe the injury, the higher the anxiety level. In other words, each one-unit increase on the injury type scale is estimated to increase the anxiety score by 2.574 points. However, this interpretation needs to be further analyzed using statistical significance testing.

Statistically, a significance value (Sig.) of 0.219 indicates that the effect of injury type on anxiety is not significant at a 95% confidence level ($\alpha = 0.05$). The t-value of 1.249 is also below the critical threshold for declaring the effect statistically significant. This indicates that although there is a directional relationship between increased anxiety and increased injury severity, the statistical evidence obtained from the data is not strong enough to conclude that there is a real effect.

In addition, the standard beta coefficient value of 0.194 shows that the contribution of injury type to anxiety is relatively small compared to other factors not included in this model. This means that the type of injury is not the only determinant of athlete anxiety, and there are likely other psychological or social variables that have a more dominant influence on anxiety levels. Therefore, although the type of injury plays a role in shaping athlete anxiety, these regression results confirm that the effect is not yet statistically significant and requires further exploration using a more comprehensive analytical approach.

Table 3. Simple Linear Regression Motivation

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	100.125	6.291		15.916	.000
Type of injury	13.846	6.992	.299	1.980	.055

a. Dependent Variable Motivation

The linear regression results showed that the injury type variable had an unstandardized regression coefficient (B) of 13.846, meaning that each one-level increase in injury type is expected to increase motivation scores by 13.846 points. This suggests that athletes with more severe injuries are more motivated, possibly because they want to recover, return to training, or maintain performance. The constant value of 100.125 indicates that, in the absence of injury, athletes' baseline motivation scores are quite high.

Statistically, these results show a t value of 1.980 with a significance level (Sig.) of 0.055. This value is slightly above the general significance threshold of 0.05, indicating that the effect of injury

type on motivation is marginally significant. Thus, although it does not meet the criteria for significance at the 95% confidence level, this result can still indicate a tendency toward a strong relationship between injury severity and increased athlete motivation, especially in the psychological context or in the process of adapting to the stress of injury.

Furthermore, the standardized Beta coefficient value of 0.299 indicates that injury type makes a moderate contribution to the motivation variable compared to other possible variables. This coefficient illustrates that the effect of injury type on motivation is greater than its effect on anxiety (see previous table) and may be a consideration in the psychological approach to injured athletes. Thus, although not fully statistically significant, these findings suggest that injury can increase motivation in athletes, especially when supported by appropriate psychological and social interventions during recovery.

Discussion

Injuries in competitive sports are not only a physiological issue, but also have significant psychological implications for athletes' performance and mental readiness. The results of the study show that the type of injury has a positive relationship with the level of anxiety in athletes, where athletes who experience injuries tend to show higher anxiety levels than athletes who do not experience injuries. However, the results of the linear regression test show that this relationship is not statistically significant, with a t-value of 1.249 and a significance (Sig.) of 0.219. This indicates that the type of injury has not been statistically proven to affect anxiety in West Java student athletes directly.

This can be explained by the stress-injury model, which emphasizes that athletes' psychological responses to injury are influenced by the interaction between stress, individual characteristics, and coping resources (Covassin et al., 2014; Tranaeus et al., 2024). This may explain why injuries do not significantly affect anxiety, as athletes can adapt psychologically.

These findings show that various factors beyond physical injury influence anxiety in athletes. This condition is in line with the view (Covassin et al., 2014) which emphasizes the need to consider psychological dimensions such as anxiety and self-confidence in managing athlete injuries. Anxiety often manifests as concerns about career prospects, the threat of losing one's position on the team, or fear of recurring injuries (Marom, 2019). In this case, a standard beta value of 0.194 indicates that the impact of injury type on anxiety is relatively limited, so it cannot be used as a single indicator in understanding the psychological distress of injured athletes. This reinforces the view that anxiety is a multifactorial psychological phenomenon that requires an interdisciplinary approach.

On the other hand, more striking findings emerged regarding the type of injury and motivation. Regression analysis revealed that injury type had a positive, nearly significant effect on athlete motivation ($t = 1.980$, $p = 0.055$). Although it did not reach the standard significance threshold of 0.05, this result still suggests that athletes who experience injuries tend to be more motivated. This can be interpreted as an adaptive psychological response, namely the drive to

recover, continue training, and demonstrate ability in the face of physical challenges ([Dwi Pramesti et al., 2022](#); [Tušák et al., 2022](#)).

Furthermore, according to Self-Determination Theory, increased motivation following an injury reflects the athlete's intrinsic drive to regain competence and return to high performance ([Tušák et al., 2022](#); [Yukhymenko-Lescroart, 2021](#)). From a rehabilitation psychology perspective, injury not only has physical consequences but also triggers psychological adaptation, in which motivation plays a crucial role in the recovery process ([Chyi et al., 2024](#); [Laurel et al., 2023](#)).

The standard beta value of 0.299 confirms the hypothesis that the impact of injury type on motivation is relatively more significant than on anxiety. This finding aligns with studies ([Fitri et al., 2020](#); [Khumairah et al., 2024](#)), which show that motivation acts as a catalyst that helps individuals continue striving to achieve their goals, even under difficult conditions such as injury. Athletes with high motivation generally show a determination to return to peak performance, making motivation an essential factor in the stages of injury recovery and rehabilitation ([Aprilianty, 2018](#)).

Overall, the findings of this study indicate that injury history has different effects on two psychological aspects of athletes, namely anxiety and motivation. Injury was not found to increase anxiety levels significantly, but provided strong evidence of increased motivation. These results emphasize the need for a multidisciplinary approach to treating injured athletes, as suggested by [Chyi et al. \(2024\)](#) involving coaches, sports psychologists, and medical personnel. Through this strategy, the athlete rehabilitation process not only focuses on physical aspects but also strengthens psychological aspects, such as increasing motivation and managing anxiety comprehensively.

Future research is recommended to expand the sample by considering more specific injury types, recovery duration, and the integration of other psychological variables, such as coping strategies and mental toughness, to provide a deeper understanding of the recovery process and the risk of reinjury in athletes.

CONCLUSION

This study found that the majority of student athletes in West Java experienced injuries, had moderate levels of anxiety, and high motivation. Based on the results of statistical tests, the variable of injury type did not have a significant effect on anxiety ($\text{Sig.} = 0.219 > 0.05$), while regarding motivation, it showed a relationship approaching significance ($\text{Sig.} = 0.055 > 0.05$); thus, it cannot yet be declared statistically significant but merely indicates a tendency toward a positive relationship.

Thus, the claim that motivation significantly influences injury occurrence needs clarification, as this study's results indicate only a tendency toward increased motivation among athletes who have sustained injuries, not a statistically significant relationship.

These findings suggest that injuries have not been statistically proven to increase athletes' anxiety; however, there are indications that injuries may elicit a stronger motivational response as a form of psychological adaptation.

Therefore, the interpretation of increased motivation following injury should be considered a potential trend, rather than a definitive conclusion, given that the significance level is slightly above the conventional threshold ($\alpha = 0.05$).

A holistic approach to athlete development is necessary to balance motivation and physical health. Highly motivated athletes may push beyond their limits without considering injury risk, making psychological monitoring and risk-management education essential. However, the assertion that excessive motivation is a risk factor for injury should be viewed as a theoretical interpretation that requires additional data to support it, not as a direct conclusion from this study's results. Additionally, sports psychology-based interventions tailored to individual characteristics need to be developed.

This study has limitations, including a relatively small sample size, a cross-sectional design that precludes causal conclusions, and the exclusion of other psychological variables, such as coping strategies, self-efficacy, and mental toughness. Theoretically, these findings confirm that athletes' psychological responses to injury are multifactorial, influenced by the interaction of physical, cognitive, and emotional factors. Therefore, the practical implications suggest that coaches and sports psychologists need to balance athletes' physical recovery and psychological management in an evidence-based manner, without making excessive generalizations about the impact of injury.

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