The Role of Academic Stress on Self-Efficacy Among Final Semester Student Athletes

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Abstract

Academic stress and self-efficacy significantly impact the academic performance of student athletes. It is crucial to comprehend the connection between these two factors to develop successful interventions that enhance the well-being and performance of student athletes. Examining how academic stress affects self-efficacy in a group of 270 senior student athletes across various academic fields was the focus of this research. The data collected from the respondents was analysed using simple linear regression analysis and SPSS software. The findings indicated a notable inverse relationship between academic stress and self-efficacy. This discovery highlights the significance of handling stress in academia to boost the self-belief of student athletes. The results make a significant contribution to the field of educational psychology by exploring the connection between stress and self-efficacy in students, offering key insights for interventions to reduce stress and enhance self-efficacy among student athletes.

Keywords: Academic Stress; Self-Efficacy; Student-Athletes; Final Semester; Education.

Introduction

In the arduous world of student athletes, especially those in their final semester, the intricate balancing act between academic pursuits and athletic commitments takes on heightened significance (Vogel, Kress, & Jeske, 2019). These individuals confront a unique set of pressures, striving to excel in both their studies and their playing field. The twin demands of concluding academic projects, such as theses or dissertations, and participating in and preparing for crucial athletic competitions create a distinct and intense environment that can significantly impact stress levels, time management, motivation, and overall well-being (Miller & Kissinger, 2009). For student athletes in their final academic phase, the thesis preparation process is not just an academic exercise, but a test of their ability to manage and allocate their time and energy effectively (Mateu et al., 2020). The challenges described, such as difficulties in finding pertinent literature, managing time efficiently, and maintaining motivation, are compounded by the added pressure of athletic training and competition schedules. The requirement to perform at peak levels in sports while also engaging deeply in academic work demands a high level of discipline, organizational skills, and resilience (Edwards & Froehle, 2023).

These students face an increased academic workload due to the strict requirements set by their universities and athletic departments, such as maintaining a specific GPA,

participating in a set number of competitions, and meeting specialised training demands (Karagiorgakis & Blaker, 2021). Juggling these two responsibilities can lead to heightened stress levels, especially as students approach the final stages of their studies, where the demands of completing their thesis coincide with their athletic ambitions. Students working on their theses frequently come across difficulties and hurdles that need to be overcome to finish them. Research conducted by Elias, Ping and Abdullah (2011) indicates that stress levels are lower in the early semesters and increase in the final semesters. Seniors in their last semester grappling with various challenges like sourcing references and literature, time management issues in thesis writing, and a lack of motivation, as highlighted by Hasanuddin et al. (2023).

Student athletes face numerous challenges when working on their thesis, which includes selecting a topic, developing a proposal, collecting, and analysing data, and presenting research findings over a semester. These challenges involve both academic and athletic responsibilities. Juggling demanding training schedules and competitions alongside academic deadlines can make it challenging to meet all these obligations. To gain a deeper insight into these distinct challenges, interviews were carried out with 20 student athletes on October 20, 2023. The results showed that these individuals faced challenges in identifying a research topic, choosing titles, understanding the

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phenomena being studied, selecting measurement tools, finding relevant literature, and receiving feedback from their advisors. Juggling between excelling in both academics and sports can make students question their capabilities, resulting in procrastination, avoiding thesis work, and hesitating to seek or attend supervisory meetings. The combination of stress and ineffective time management is jeopardising their ability to graduate on time.

Throughout their thesis work, student athletes are required to demonstrate independence and adaptability when dealing with different situations and requirements. The university has set up distinctive graduation criteria that vary from those of the other campuses. The criteria involve achieving a minimum number of student activity transcript (SAT) points, fulfilling a specific number of hours of social activity work, acquiring international experience in either an academic or non-academic environment, and following a five-year restriction for undergraduate programmes. Furthermore, there was a rigorous assessment system. These regulations are known to cause student athletes to feel worried, anxious, and fearful, which can lead to delays in completing the thesis.

As per Abbas et al. (2022), stress is a reaction to a triggering event that individuals may struggle to manage. Sarafino and Smith (2012) discussed how stress is caused by the way a person interacts with their surroundings, leading to an imbalance in the demands placed on their biological, psychological, and social systems. When academic demands surpass an individual's capacity and resilience, it can result in physical, emotional, behavioural, and cognitive reactions as coping mechanisms (Gadzella & Masten, 2005). Student athletes often face stress due to academic challenges, which can have a significant impact on their overall well-being and health (Hasanuddin et al., 2023). How a person responds to pressure determines how stressors affect them. When individuals respond positively, accepting challenges as part of life and finding ways to overcome them, stress will dissipate once they successfully navigate the situation. However, if someone reacts unfavourably, stress could lead to long-lasting emotional disruptions (Elias et al., 2011).

Academic stress is mainly due to the increasing pressure in the academic arena, stemming from the expectations of high performance and success, particularly for student athletes. Fahlevi et al. (2022) noted that it can be quite intimidating for student athletes. According to a 2015 study by the American College Health Association National College Health Assessment (ACHA NCHA), 30% of senior students at various American universities had trouble managing stress from their second to their fourth year (Semester 8) (American College Health Association, 2015).

In a study conducted by Arsaningtias (2017), it was discovered that 221 senior students at Airlangga University were under significant academic pressure, as revealed by the findings of the research. Student athletes who are more emotionally sensitive may face difficulties when dealing with academic requirements, especially when feeling stressed. Consequently, individuals might feel anxious and entertain pessimistic thoughts, like the fear of not being able to meet all their responsibilities. This emotional tendency can worsen stress related to schoolwork, which might be challenging to handle for those who don't have effective coping strategies. Bandura (2010) suggests that emotional challenges have a notable impact on the performance of student athletes.

An escalation in stress related to academics may result in a decrease in confidence in one's abilities, subsequently impacting performance metrics (Goff, 2011). Extended exposure to stress from academic demands may lead to memory issues, reduced problem-solving skills, and hindered academic achievements (Goff, 2011). As per Agolla and Ongori (2009), the stress from academic responsibilities can have detrimental effects on senior students, leading to various physical and mental health issues. Such negative effects may lead student athletes to display unwanted behaviours like neglecting their academic work, procrastinating often, turning to substance abuse, seeking excessive pleasure, and, in severe situations, contemplating suicide (Kariv & Heiman, 2005).

As per Steven and Sarah's research (2019), it is crucial for individuals to identify and manage stress that includes physiological, affective, and behavioural symptoms to minimise its effects on their tasks. The discovery is consistent with the outcomes of this research, indicating that stress related to school has an adverse effect on students' self-assurance and academic performance. Believing in one's ability to achieve specific goals or perform certain behaviours is crucial in handling stress related to academics (Ormrod & Ellis, 2009). This belief can be developed and strengthened through various primary sources such as observing the success of others, gaining hands-on experience, and receiving verbal encouragement. By enhancing their self-efficacy, students can make more informed choices about how to approach their academic tasks and achieve desired outcomes (Santrock, 2011). Academic stress is a multifaceted phenomenon that affects students' physiological, emotional, and behavioral responses, and it is important for them to understand and manage stress effectively. Developing self-efficacy can be a valuable tool for students in this regard, as it enhances their belief in their ability to succeed academically and makes them more resilient when

faced with academic challenges (Fahlevi & Leonita, 2022). As per Bandura (1997), people with high self-efficacy possess a robust personality that helps them stay resilient in the face of challenging circumstances. On the other hand, individuals with low self-efficacy see failure as a reflection of their intellectual capabilities, which they believe cannot be enhanced. This outlook results in a decrease in confidence and challenges in addressing current issues. Finishing a thesis can be overwhelming for students, leading to feelings of anxiety. While various studies have investigated stress and self-efficacy independently, there is a lack of research on how they interact, particularly among student athletes in their final semester. This research explored how stress from school affects one's belief in their abilities. The researcher hypothesised that the stress final-year student athletes face could impact their confidence in completing their thesis. This study aims to investigate if stress related to academics influences the self-efficacy of student athletes in their final semester. This research sought to investigate how stress impacts self-efficacy in student athletes in their last semester.

Research Design

Participants in this study were senior student athletes who were completing their thesis. Choosing the right sampling technique is crucial for ensuring the study's validity and reliability. According to Kazdin (2021), various sampling techniques are at your disposal, and the selection depends greatly on the specific characteristics and circumstances of the study. The study used the Non-Probability Sampling method because not every member of the population had an equal chance of being included in the research sample. This method is especially pertinent in the current situation, with the research centering on senior student athletes who are working on their thesis, as opposed to students overall. In this study by Kang (2021), the use of G*Power requires specifying the type of analysis, like linear multiple regression, the desired power level, the expected effect size, and the alpha level to explore the impact of academic stress on self-efficacy among student athletes. One way to determine the expected effect size is by looking at previous research or pilot studies. If this information is not available, you can refer to common effect size categories like small, medium, or large as a reference point. The selection of 270 student athletes from seven provinces in Indonesia as participants demonstrated a meticulous and all-encompassing method to grasp the phenomenon within a diverse and representative sample. The wide geographical distribution improves the ability to apply the results to a larger group of student athletes in Indonesia. This research

aims to encompass participants from various provinces to explore potential regional differences in stress levels, athletic training programmes, and support structures that could impact self-confidence.

The study's sample size of 270 participants was determined using G*Power analysis to ensure it could detect the expected effect size with the desired power and significance level. Engaging in this proactive planning step is crucial for reducing the likelihood of Type II errors, which can compromise the strength and dependability of the research results. This study used an accidental sampling technique as a part of Non-Probability Sampling. Sampling by chance is a technique where individuals who come across the researcher and meet the research criteria are chosen as samples. As a result, student athletes who are coincidentally approached by the researcher while working on their theses will be part of this study. This method enables fast and effective data gathering, ensuring that the samples collected are relevant to the research focus.

Measurement

The research project plans to use the student-life Stress Inventory to evaluate stress levels, following modifications by Porru et al. (2022) and aligning with the factors highlighted by Gadzella and Masten (2005). The stressors assessed encompassed frustration, conflicts, pressure, changes, and self-imposed pressures. The research will evaluate four indicators of how individuals respond to these stressors: physiological reactions, emotional reactions, behavioural reactions, and cognitive assessment. The General Self-Efficacy Scale was utilised to assess self-efficacy, drawing from Bandura's theory and adapted by Di et al. (2023) and Lazić, Jovanović and Gavrilov-Jerković (2021), emphasising magnitude, generality, and strength.

Analysis Technique

The study used a Likert-scale model for the research methodology, providing response options ranging from strongly agree (SA) to strongly disagree (SD). The items on both scales in this study were divided into two segments: favourable and unfavourable. We analysed the collected data using simple linear regression analysis techniques. SPSS for Windows was utilised to optimise the data analysis process and improve productivity (Acton et al., 2009). The primary objective of this statistical analysis was to evaluate the relationship between two research variables, which are stress related to academics and self-efficacy, particularly among student athletes in their final semester. SPSS 26 for Windows is a powerful tool commonly used for statistical data analysis in research. It will significantly simplify the process of conducting simple regression analysis in this study.

Empirical Result

This study demonstrates its findings by thoroughly analysing respondent characteristics, conducting assumption tests, assessing validity and reliability, performing correlation analyses, and conducting regression analyses.

Demographic Profile of Respondents

The study participants' demographic breakdown is detailed in the first part of the empirical results section, as illustrated in Table 1. Understanding the breakdown of the sample is essential for grasping its diversity and ensuring that the study's results can be applied to a broader population.

Table 1

Characteristic Respondent

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	145	53.7%
	Female	125	46.3%
	Total	**270**	**100%**
Subject	Business Management	40	14.8%
	Psychology	55	20.4%
	Sociology	50	18.5%
	Education	45	16.7%
	Communication	35	13.0%
	Others	45	16.7%
	Total	**270**	**100%**
Province	North Sumatera	40	14.8%
	East Kalimantan	36	13.3%
	West Java	42	15.6%
	Central Java	38	14.1%
	Yogyakarta	37	13.7%
	Bali	40	14.8%
	Jakarta	37	13.7%
	Total	**270**	**100%**

Table 1 provides a detailed demographic analysis of the study participants, including student athletes from various provinces in Indonesia, studying different subjects, and representing both genders. This table is essential for understanding the diversity and characteristics of the student-athlete population in the study, helping to place the findings within the specific challenges and experiences of this group.

In this study, the gender distribution among student athletes was quite even, with 53.7% male and 46.3% female participants, totaling 270 individuals. It is essential to maintain this balance to explore the variations in academic stress and self-efficacy between genders among student athletes. This exploration could uncover gender-specific pressures or coping strategies in both academic and athletic areas. The sample included a diverse range of fields of study, from Business Management to Communication, with Psychology (20.4%) and Sociology (18.5%) being the most popular. Having a variety of academic disciplines allows for investigating if specific fields of study are linked to increased levels of stress and how this stress affects the self-confidence of student athletes. The differences in coursework, expectations, and balancing academic and athletic commitments across various disciplines can significantly impact stress levels and self-efficacy.

Participants in the study represented seven different provinces, including North Sumatera and East Kalimantan, with frequency percentages ranging from 13.3% to 15.6%. The diversity of the participants' geographical locations ensured that the research captured a broad spectrum of cultural, educational, and athletic contexts within Indonesia, which may influence the academic and athletic experiences of student athletes. For example, differences in access to sports facilities, academic resources, and support systems across provinces may affect the stress experienced by student athletes and their confidence in managing it. It is crucial to grasp the characteristics of the student-athlete respondents to customise interventions and support systems to meet their specific needs. Having an equal representation of both genders in the study indicates that the results could be relevant for all athletes, emphasising the importance of considering gender differences when addressing stress and boosting confidence. The range of academic fields highlights the significance of advisors and

coaches in recognising the specific challenges faced by student athletes, indicating that tailored support strategies may be necessary depending on their area of study. Provincial representation highlights how regional differences can affect student-athlete experience, emphasising the importance of considering the local context when creating support programmes.

Normality Test

Prior to conducting a simple regression analysis, a normality test was carried out to ensure that the data used were normally distributed. Graphical methods like histograms and P-plots are frequently used to evaluate data normality (Burns & Burns, 2008).
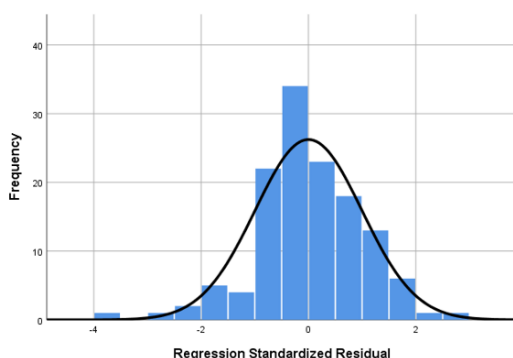

Figure 1. Histogram.

The bar chart shown in Figure 1 illustrates a histogram displaying the distribution of data within various intervals. When evaluating the data's normality, it is important to examine the histogram of residuals. This histogram illustrates the discrepancies between the observed values and the values predicted by the model. When the data follows a normal distribution, the histogram will show a bell-shaped pattern known as a normal or Gaussian distribution (Hinton, McMurray, & Brownlow, 2014). This distribution displays symmetry with identical mean, median, and mode values. Based on the findings of this study, the residual histogram shows a bell-shaped pattern, indicating that the data adhere to a normal distribution.
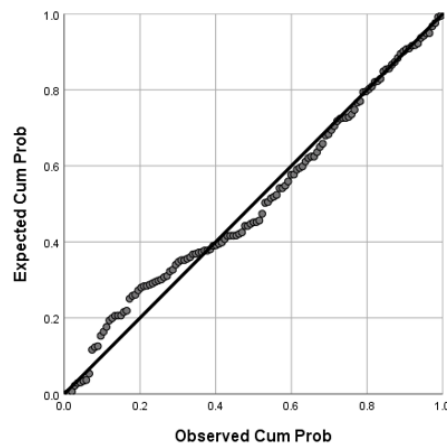

Figure 2. P-Plot.

The P-plot is a useful tool for assessing the normality of data (refer to Figure 2). This graph shows the relationship between the observed residual values and the expected values assuming the data follows a normal distribution. When the data follow a normal distribution, the points on the plot will create a straight diagonal line. Throughout this study, the data points on the P-plot typically aligned with the diagonal line, indicating a tendency for the data to conform to a normal distribution (Hinton et al., 2014).

Heteroskedasticity

When analysing statistics, heteroscedasticity occurs when the variability of a random variable changes along with the values of another variable (Wagner III, 2019). In regression analysis, this phenomenon pertains to the variation of errors or residuals in the model, which changes throughout the range of independent variables. One common method for identifying heteroskedasticity involves creating a scatter plot of the residuals versus the predicted values. If there is no clear or consistent pattern in the scatter plot and the points seem to be randomly scattered, we can infer that the data do not show heteroskedasticity. If the data points exhibit a specific structure, like forming a cone shape or showing a distinct pattern, it indicates the presence of heteroskedasticity.
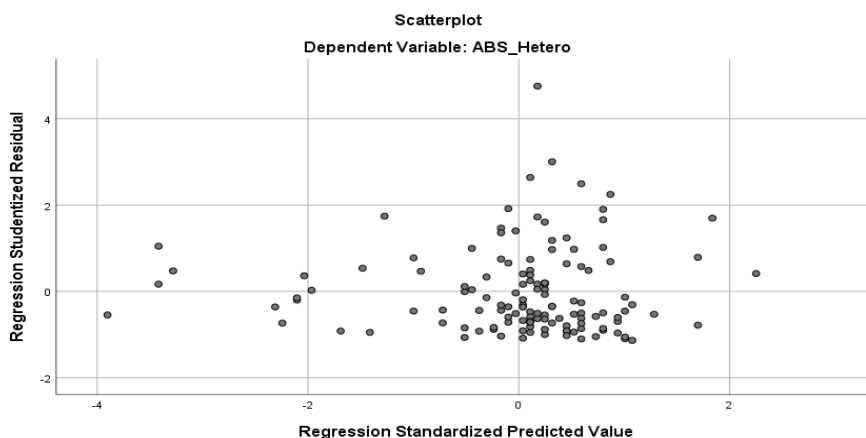

Figure 3. Scatterplot.

Figure 3 displays a scatter plot illustrating the residuals in relation to the predicted values. After the analysis of the plot, it is evident that there is no clear systematic pattern in the data points' arrangement, indicating the absence of heteroscedasticity. It is essential to note that the consistency of residual variability across the independent variables' range is a critical assumption in regression analysis.

Validity and Reliability

Throughout this study, we utilised a range of statistical methods to guarantee the accuracy and reliability of our research instruments. We conducted two crucial tests: a validity test utilising the Kaiser-Meyer-Olkin (KMO) measure, and a reliability test employing Cronbach's alpha (Coşkun & Demirel, 2010).

Table 2

Kaiser-Meyer-Olkin (KMO) and Cronbach's Alpha

Variable	Number of Items	KMO Value	Remarks on Validity	Cronbach's Alpha	Remarks on Reliability
Academic Stress (X)	51	0.874	Valid	0.890	Reliable
Self-Efficacy (Y)	36	0.891	Valid	0.912	Reliable

Assessing the adequacy of the sample size for factor analysis was the main goal of validity testing using the KMO method. KMO values range between 0 and 1, with higher values suggesting more robust correlation patterns among the variables, making them appropriate for factor analysis. A KMO value above 0.6 is deemed acceptable. The KMO value for variable X (Academic Stress) was 0.874, and for variable Y (Self-Efficacy) it was 0.891. This suggests that the sample size in the study was sufficient for factor analysis, and all items in variables X and Y successfully passed the validity test. Reliability testing aims to evaluate the consistency of a measurement instrument. If the same instrument is administered to the same subject at different times, the results should be consistent. According to Table 2, Cronbach's Alpha for variables X and Y are 0.890 and

0.912, respectively, indicating that this research instrument is reliable. Therefore, this research instrument met the criteria for validity and reliability, and the results were accurate and reliable.

Statistical Analysis

Table 3 presents the statistical findings, showing a correlation between stress related to studies and self-belief, a positive starting point for self-belief, and a notable negative effect of academic stress on self-belief. The model utilised in this study showcases a significant level of explanatory capability. These results are essential for forming conclusions based on evidence and providing recommendations to assist student athletes in their academic and athletic endeavours.

Table 3

Pearson Correlation, Regression, and R-Square

Variable	Coefficient	P-Value	Information
Academic Stress (X)	-0.390	< 0.001	Negative Correlation
Constant	159.433	< 0.001	Positive Intercept
Regression	-0.343	< 0.001	Significant Negative Impact
R-Square	0.390		Weak or Low Explanation Power

The Pearson Correlation is a statistical measure used to evaluate the strength and direction of the relationship between two variables. The measure's values ranged from -1 to 1. A value below zero implies that as one variable increases, the other decreases, while a value above zero suggests that both variables move in the same direction. The Pearson Correlation value between Academic Stress and Self-Efficacy was -0.390, suggesting a moderate negative relationship between the two variables. It indicates that as stress from academics rises, self-efficacy tends to decline and vice versa. The sig. (2-tailed) or the p-value represents the probability value utilised to assess the

statistical importance of the connection between two variables. Here, the p-value was 0.000, which was below 0.01, showing that the connection between stress related to academics and self-belief was significant at the 1% level. The study involved 130 participants, and the findings indicated a noteworthy and moderate inverse correlation between stress related to academics and self-belief in one's abilities. As a result, a rise in stress related to academics led to a drop in self-confidence.

When the independent variable increases by one unit, coefficients (B) show the expected change in the dependent variable, assuming all other variables stay constant. For this

case, a one-unit increase in stress was found to decrease self-efficacy by 0.343 units. The precision of the coefficient estimate is reflected by the Standard Error, with smaller values suggesting more accurate estimates. The standardised coefficients (Beta) demonstrate the strength of the relationship between the independent and dependent variables, with values ranging from -1 to 1. Here, the beta value of -0.390 indicates a negative correlation between academic stress and self-efficacy.

The t-value resulted from a t-test evaluating the statistical significance of the regression coefficient. This value was utilised to establish if there was a noteworthy connection between the independent and dependent variables. The p-value, or Sig., represents the probability value utilised in assessing the statistical significance of the regression coefficient. Given the p-value is below 0.05, it suggests that the regression coefficient holds statistical significance. According to the regression equation, when Academic Stress is at 0, Self-Efficacy is predicted to be 159.433. Moreover, with every one-unit rise in academic stress, self-efficacy was predicted to decrease by 0.343 units. According to these findings, it can be concluded that our hypothesis is supported.

The outcomes of a straightforward linear regression examination, as shown in Table 3, were used to assess the relationship between the variables Academic Stress (X) and Self-Efficacy (Y). The Correlation Coefficient R is a measure of the strength and direction of the relationship between two variables. In this instance, the coefficient of determination, or R Square value of 0.390, indicates that 39% of the variation in Self-Efficacy (Y) can be ascribed to the variable Academic Stress (X).

Discussion

Research in the field of student athletes emphasise the delicate equilibrium between schoolwork and sports, particularly as students near the end of their academic career. Previous studies have demonstrated that stress related to academics can greatly reduce self-confidence, indicating that as academic stress rises, an individual's confidence in their ability to achieve goals and tackle obstacles diminishes (Bandura, 2010). The -0.390-correlation coefficient between stress related to academics and self-efficacy highlights a moderate but important inverse connection, in line with Vogel et al.'s (2019) research showing the challenges faced by student athletes. Dealing with academic deadlines and athletic competitions can affect time management and self-efficacy, which may influence academic results and athletic performance (Miller & Kissinger, 2009).

When student-athletes work on their theses, they may face challenges like sourcing relevant materials and balancing their time, especially with their athletic commitments (Mateu et al., 2020). The research discovered that the difficulties faced in academic pursuits can result in increased stress levels, particularly for student athletes as they approach graduation, potentially affecting their self-confidence. Furthermore, the requirement for student athletes to meet rigorous eligibility standards for their athletic involvement adds pressure to their academic achievements (Karagiorgakis & Blaker, 2021). This stress may appear in different ways, from emotional reactions to changes in behaviour, as individuals try to juggle the demands of their two roles.

This study investigated the connection between stress related to academics and self-belief among student athletes from various provinces and academic fields. The findings of this study demonstrated that stressors related to academics and athletics, such as performance expectations, can have a detrimental effect on self-efficacy, which is essential for motivation and performance (Edwards & Froehle, 2023). The results are in line with the National College Health Assessment by the American College Health Association, which revealed that 30% of graduating students faced significant stress related to their studies (American College Health Association, 2015). Arsaningtias's (2017) study on final-year students at Airlangga University highlighted a significant presence of intense stress related to their studies. According to the research, student athletes may face negative consequences on their cognitive functions and psychological well-being if they do not address the stress they experience, potentially resulting in harmful coping mechanisms (Agolla & Ongori, 2009; Goff, 2011). These discoveries highlight the significance of having strong support systems in place to help student athletes thrive both academically and athletically.

Conclusion

The research uncovered a notable inverse correlation between stress related to academics and self-belief among athletes in their last semester. The results support the idea that higher stress levels in academics can lead to lower self-confidence, consistent with previous research highlighting the negative impact of stress on one's confidence in achieving objectives. The strength of these findings is highlighted by how academic stress influences changes in self-efficacy among a wide range of student athletes from different fields and regions. This research has far-reaching implications that impact educational policies, athletic programme management, and psychological support

services. Educational institutions and athletic departments should acknowledge the distinct challenges that student athletes encounter and establish measures to help reduce academic pressure. This may include adaptable scheduling, specialised assistance with studies, and support services tailored for student athletes.

In addition, creating an environment that encourages balance and well-being can greatly improve the self-confidence and overall achievements of student athletes in their academic and athletic pursuits. The strength of these findings is highlighted by how academic stress influences changes in self-efficacy among a wide range of student athletes from different fields and regions. This research has far-reaching implications that impact educational policies, athletic programme management, and psychological support services. Educational institutions and athletic departments should acknowledge the distinct challenges that student athletes encounter and establish measures to help reduce academic pressure. This may include flexible scheduling, specialised academic support, and mental health services tailored for student athletes. Moreover, creating an environment that encourages balance and well-being can greatly improve the self-efficacy and overall performance of student athletes in their studies and sports. The sample size, consisting of student-athletes in their final semester, is diverse and representative; nevertheless, it could restrict the applicability of the results to different

phases of academic and athletic growth. Furthermore, the study's use of self-reported measures for stress related to academics and self-efficacy could have led to bias. Moreover, the study's cross-sectional design restricted the ability to establish a causal relationship between stress related to academics and self-efficacy. Future studies should focus on overcoming the current study's limitations by including longitudinal designs to investigate the causal connections between stress related to education and self-belief over an extended period. It would be advantageous to broaden the sample to encompass student athletes at various points in their academic and athletic journeys and to include objective assessments of academic stress and performance. Studying the impact of certain interventions aimed at decreasing stress and boosting confidence in student athletes could offer important insights for improving educational and athletic programmes. In addition, delving into the impact of different variables like social support and personality traits could provide a more thorough grasp of the elements affecting the well-being and performance of student athletes.

Acknowledgments

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