

The Role of Goal-Setting as a Moderator of the Relationship Between Self-Regulated Learning and Academic Performance Among College Athletes

Anna B. B. Khusnandi*, Sri Tiatri, Riana Sahrani

Universitas Tarumanagara, Indonesia

Email: work.annabella@gmail.com*, sri.tiatri@untar.ac.id, rianas@fpsi.untar.ac.id

Keywords

Academic Performance;
Goal Setting;
Self-Regulated Learning;
Student Athlete.

ABSTRACT

Student-athletes face dual demands in maintaining both academic and athletic performance. This research aims to examine the effect of self-regulated learning (SRL) on academic performance among student-athletes and to investigate the moderating role of goal setting. A quantitative correlational approach was employed, involving 232 student-athletes from several universities in Indonesia. The instruments included a goal-setting scale, an SRL scale, and Grade Point Average (GPA) as an indicator of academic performance. The results indicate that SRL has a positive and significant effect on academic performance, demonstrating that students with better self-regulation abilities tend to achieve higher GPAs. Similarly, goal setting also shows a positive and significant direct effect on academic performance. However, the interaction between SRL and goal setting is significant with a negative direction, suggesting that goal setting weakens the effect of SRL on academic performance. This counterintuitive finding implies that when student-athletes set overly rigid or ambitious goals without adequate self-regulatory flexibility, the effectiveness of their learning strategies may be compromised. These findings highlight the importance of developing learning strategies that integrate adaptive self-regulation with realistic goal setting to support both academic and athletic success among student-athletes.

INTRODUCTION

A student-athlete often faces two challenges, namely having a dual role as a student and an athlete. It is added that it is necessary to achieve peak performance with a prime age limit. Research shows that the peak performance of professional basketball athletes generally exists at the age of 20 to 25 years, with some variation depending on the role and skill of the individual, for example in the American basketball league it was found that the peak of performance in male NBA players in the context of points per minute was achieved at the age of about 25 years, while flatter performance was found without a clear peak in female players (Lailvaux et al., 2014). Another study also found that the peak performance of male basketball athletes is at the age of 25 and after that age there is a decrease in physical performance, such as distance and average speed. However, technical performance, especially in the guard position, remains stable or there is even an increase until the age of 30 (Kalén et al., 2020). All-NBA players were found to peak their performance at the age of 27.7 years and experienced a decline in physical performance afterwards (Hoopshype, 2018).

In some of the results of the above research, student-athletes have a relatively narrow time to achieve success in any sport, while student-athletes are also required to navigate between academic and athletic responsibilities. Another study revealed that there are some athletes who feel that their academic aspects are neglected by the coach, where the coach prioritizes commitment to the team. This causes conflicts between training schedules and classes, even forcing some athletes to sacrifice the majors they are pursuing (Rey & Johnson, 2021). There are several studies that show that there is an identity conflict between academic and athletic roles that can affect the psychological well-being of student-athletes. In addition, there is a stigma that considers student-athletes to be less important and serious in their academic fields or in fulfilling their role as students. This stigma has the potential to add pressure and will affect performance in both areas. Student-athletes experience significant identity conflicts between roles as students and athletes, these conflicts negatively impact their psychological well-being (Di Lu et al., 2018).

It was found that discrimination and stereotypes against student-athletes are stressors that have a negative impact on their mental health. These stressors can have an impact on the decline in athlete performance, the decline itself can be caused by various factors, both physical and psychological which certainly affect athletes' performance significantly, especially if not handled appropriately. Common causes of athlete performance decline are due to injury, lack of confidence, and psychological stress (Stead et al., 2022). In addition, other studies also state that excessive stress can lead to the phenomenon of "choking", where athletes fail to perform optimally in competitive situations (Mesagno & Beckmann, 2017). Research by Breslin et al. (2022) revealed that interventions on mental health in sport can improve athletes' mental well-being, which in turn can contribute to improved academic performance. The balance between identity as an athlete and a student is also important, because if there is an imbalance, it can hinder academic achievement and readiness for career transitions after the athletic period ends (Steele et al., 2020).

It was found that the pressure to maintain academic and athletic performance can increase the risk of stress and mental fatigue. A study found that 30% of student-athletes feel extremely overwhelmed, and nearly 25% experience mental fatigue, which can affect academic performance and overall well-being. Interviews with three student-athletes at university X show that balancing academic and athletic achievement is not an easy task. Participant 1 explained that even though they received a full scholarship as a result of sports performance, the sustainability of the scholarship was highly dependent on academic performance with a minimum GPA of 2.2 as the main requirement and if it was below these conditions, the scholarship would be forfeited for that semester and threatened the opportunity for students to participate in competitions. He said that the training schedule that started from five in the morning until the evening often made him absent from class, but he tried to keep improving his grades in the next semester (Participant 1, personal communication, September 2025).

Participant 2 added that being a student as well as an athlete requires very disciplined time management and priority setting. According to him, the ability to make a study plan is an important factor in maintaining stable academic grades in the midst of a busy training schedule (Participant 2, personal communication, September 2025). Meanwhile, Participant 3, who has just started her role as a student-athlete, mentioned that the main challenges she feels are physical fatigue and lack of rest time, but she feels that the motivation and discipline born from

\

setting personal goals helps her stay focused (Participant 3, personal communication, September 2025). The findings of the interviews show that the pressure to maintain performance in two different areas demands certain psychological abilities, especially in the aspects of goal setting and self-regulated learning. College athletes need to set clear, realistic, and measurable goals to effectively direct their energy and time. Locke and Latham (1990) explain that specific and challenging goals can increase motivation, direct attention, and strengthen commitment to tasks. Other research shows that goal setting not only improves performance, but also helps individuals deal with obstacles more adaptively (Latham & Locke, 2002; Morisano et al., 2010).

Recent research shows that student-athletes who have a strong academic identity tend to allocate more time to academic activities, while a dominant athletic identity can reduce the time spent studying. A balance between these two identities is important for academic and athletic success (Santos & Sagas, 2023). This phenomenon does not only occur in certain sports, but is experienced by athletes from various branches such as basketball, futsal, football, badminton, and swimming. Each sport has a high intensity of training and competition, which requires time management and effective learning strategies so that academic performance does not decline. Previous research has shown that an imbalance between academic and athletic roles can lead to identity conflicts and negatively impact the psychological well-being of student-athletes (Di Lu et al., 2018; Steele et al., 2020).

Low academic performance can affect the sustainability of athletic scholarships, as many institutions require minimum academic standards to maintain scholarships (Comeaux & Harrison, 2011). According to the NCAA report, the Academic Progress Rate (APR) score is used to evaluate a team's eligibility to maintain scholarships and participation in competitions. Teams with an APR score below the threshold may be subject to sanctions, including scholarship deductions (NCAA.org, 2023). In addition, academic performance can also have an impact on the sustainability of education and participation in sports teams, even in various student league regulations, such as the NCAA in the United States and some institutions also in Indonesia, student athletes are required to meet certain academic standards to remain qualified to compete. Failure in academic performance can lead to temporary disqualification from the competing team (Ridpath, 2010). Minimum academic standards are set by the NCAA to ensure student-athletes remain eligible to compete. APR scores reflect academic eligibility and student-athlete retention, which are key indicators in determining eligibility to participate in competitions (NCAA.org, 2025).

Academic achievement is needed as one of the scholarship requirements for student athletes. As another example, Bina Nusantara University determines the requirements for a Semester Achievement Index with a minimum of 2.75 per semester to remain active in the Student Athlete Scholarship – BINUS Basketball (BINUS Student Athlete Scholarship, 2025) scholarship program. One of the Student League (LIMA) competitions, one of the university-level sports competitions in Indonesia, requires participants to have a minimum GPA of 2.00 as an administrative requirement (Andriawan, 2014). It has also been found that only about 1.3% of basketball student-athletes make it to a professional league such as the NBA (Stephens, 2019).

Student-athletes who focus too much on athletic aspects with low academic performance are at risk of an identity crisis when they are injured or retired, because they do not have other

academic or professional career readiness (Lally & Kerr, 2005). The pressure to maintain academic performance as well as athletics increases the risk of stress, anxiety, and burnout. Academic underperformance can exacerbate this pressure and lower self-confidence (Watson & Kissinger, 2007). After the playing period ends, academic performance becomes the main determinant to enter the world of work. Student-athletes with low academic achievement tend to have difficulties in transitioning to the professional world of non-sports (Stambulova et al., 2009). Studies have found that good academic performance during college facilitates a smoother transition to the professional world after an athletic career ends. Research shows that student-athletes with high academic achievement are better prepared to face career challenges outside of sports (Mitchell, 2024).

Student-athletes are often found facing a dual role in meeting academic and athletic demands. In addition to facing dual roles, student-athletes are also faced with age restrictions to achieve peak performance. This situation demands an effective self-management strategy, no one performs, be it academic or athletic, is not neglected. One of the approaches that is believed to help improve academic performance is goal setting.

However, there has not been much research in the Indonesian context that specifically examines how self-regulated learning (SRL) affects the academic performance of student-athletes, as well as the role of goal-setting skills in moderating the relationship. The problem that arises is whether the setting of goals can directly improve the academic performance of student-athletes, or actually improving the performance occurs through the improvement of self-regulated learning abilities, based on the above problem there is a research question, namely "Does goal setting play a role as a moderator in the relationship between academic performance and self-regulated learning?"

This research has four main objectives: to examine the effects of self-regulated learning and goal setting on academic performance among student-athletes in Indonesia, to investigate the moderating role of goal setting in that relationship, and to analyze variations in the moderation effect across different sports. Theoretically, this study contributes to educational and sports psychology literature by testing self-regulated learning and goal-setting theories within the Indonesian student-athlete context, offering insights into how these constructs jointly influence academic achievement. Practically, the findings can guide the development of academic support programs, coaching interventions, and academic policies that better accommodate student-athletes' dual roles, while also providing evidence-based strategies for student-athletes to manage their academic and athletic responsibilities effectively and support their long-term career development.

METHOD

This study used a quantitative approach with a correlational design to test the relationship between self-regulated learning and academic performance, with goal setting as a moderator variable. This approach was chosen because it allows for objective and measurable testing of relationships between variables through statistical analysis. Data was collected online and offline using a Google Form-based questionnaire that was distributed to student athletes from several universities in Indonesia that are members of the student league.

Participants

Participants in this study are student athletes who are members of the student athlete scholarship program at the university level. The selection of participants is based on the unique characteristics of student-athletes who face dual demands in academics and athletics, where they are required to maintain academic performance while meeting the demands of intensive training and competition. In this context, student-athletes have an obligation to maintain a certain Cumulative Grade Point Average (GPA) as a condition for the continuation of scholarships and participation in competitions, so this context is relevant to the research focus on self-regulated learning and goal setting.

Participants in this study came from several universities in Indonesia that are members of student leagues. The selection of the research location takes into account the diversity of sports coaching contexts and academic systems faced by student-athletes. As an illustration of the characteristics of the participants, the demographic distribution of the respondents can be seen in Table 1. The inclusion criteria in this study include: (a) active students enrolled in the student athlete scholarship program, (b) actively participating in training activities and sports competitions, (c) having a Cumulative Grade Point Average (GPA) of at least 2.20, (d) being in the age range of 18–23 years, and (e) willing to participate by signing an informed consent.

The inclusion criteria in this study include: (a) active students enrolled in the student athlete scholarship program, (b) actively participating in training activities and sports competitions, (c) having a Cumulative Grade Point Average (GPA) of at least 2.20, (d) being in the age range of 18–23 years, and (e) willing to participate by signing an informed consent. The sampling technique uses purposive sampling, which is the selection of participants based on certain criteria that are relevant to the research objectives. The number of samples was determined based on the Krejcie and Morgan table with an estimated population of 520 student-athletes, so that the recommended number of samples was obtained between 217 and 226 participants.

In addition, the contribution of student-athletes from University X was also seen at the national sports level, when a number of its players also strengthened the provincial team and won a gold medal in the National Sports Week (PON). The consistent track record of achievements over the past decade shows that the basketball team from this university is not just a participant, but an important factor in the map of university basketball competitions in Indonesia. Thus, the selection of several universities in Indonesia as research locations is based on a typical context, namely a combination of continuous sports achievements, the application of strict academic standards for scholarship recipients, and high intensity of training. This condition reflects the reality of student-athletes who have to balance two major demands at the same time academics and athletics so that it is relevant to the research focus on the role of goal setting and self-regulated learning in supporting academic performance.

Measurement (Interview/Observation Guide)

Academic Performance is defined as a cumulative measure of a student's academic achievement expressed in numerical format, which will use the last Cumulative Grade Point Average (GPA) reported by participants with a GPA range of 0.00 to 4.00. The use of GPA as an indicator of academic performance is widely used in educational psychology research

because it is considered valid to represent student learning outcomes (Richardson, Abraham, & Bond, 2012).

Goal setting is a measure of the size of a student-athlete's ability to design their academic goals. This scale uses statements with a likert scale of 1–5 (1 = very inappropriate, 5 = very appropriate) that has been adapted from the theory of Locke, Shaw, Saari, & Latham (1981) that has been adapted by Zakariyya & Koentjoro (2019). This scale consists of 30 items, with 15 favorable items and 15 unfavorable items, which include 5 main aspects, namely Clarity, Challenge, Task Complexity, Commitment, and Feedback. The example of the favorable item is "I understand and know the steps that must be taken to achieve the goal." and the example of the unfavorable item is "I have unclear goals in learning." This scale has good reliability with the reliability coefficient of this scale expressed by Cronbach's $\alpha = 0.914$ in the original study (Zakariyya, 2020).

Self-Regulated Learning is defined as a process that includes the practice of goal setting, self-monitoring, and reflection that student-athletes use in their learning efforts. The aspects of SRL measured in this study include setting learning goals, managing time and resources, using learning strategies, and monitoring and self-reflection. The research will use a theory-based scale from Zimmerman (2002) which has been adapted by Sulisworo et al. (2020). This scale uses statements with a likert scale of 1 to 5 (strongly disagree - strongly agree) which has been adapted by Fajarwati et al. (2023).

This scale consists of 22 items, with 17 favorable items and 5 unfavorable items, which include four main aspects, namely Planning, Monitoring, Controlling, and Reflecting. Each item is graded using a likert scale of 1–5 (1 = very inappropriate, 5 = very appropriate). A high total score indicates better self-regulated learning abilities. The example of the favorable item is "I plan the project I want to complete" and the example of the unfavorable item is "I have difficulty making a plan to help me achieve the goals I want to achieve" This scale has good reliability with Cronbach's $\alpha = 0.879$ in the original study (Sulisworo et al., 2020).

Procedure

Like research in general, the first step of every research certainly starts with a lot of studies in the form of literature, articles, current news, and others. Then, when they have found a strong phenomenon, background, and novelty, they will move on to develop a theoretical foundation to support the research. If it has been approved and through the thesis proposal hearing, the researcher will start the preparation of the research instrument, after the research instrument goes through the trial process.

The researcher will carry out the data collection process by distributing questionnaires to participants either through social media, or by collaborating with the student league of each university who is willing to become participants in this research. This study upholds the principles of research ethics, by conducting (a) Informed Consent: Each participant agrees to participate voluntarily, (b) Anonymity and Confidentiality: Participant data is guaranteed confidentiality and will not be used other than for research purposes, and (c) There is no pressure of any kind, participation is voluntary and participants can stop participation at any time.

Regarding research licensing, the researcher has contacted the Faculty of Psychology of University X and obtained confirmation of permission to carry out the research. The next

process is to schedule directly with student athletes at University X for data collection. Each student-athlete who participates will be given informed consent before filling out the questionnaire, which contains information about research objectives, procedures, benefits, potential risks, and data confidentiality guarantees. Participation is voluntary, and participants have the full right to terminate involvement at any time without consequences.

When the data collected has reached the target number of participants, the researcher will carry out a data verification process whether there is invalid data to proceed to the data processing process. Then, if the collected data can be considered clean, the researcher will enter the data processing process that will use SPSS statistical software. The first data analysis technique will use descriptive statistical analysis used to describe the characteristics of the participants, including the distribution of age, gender, GPA, frequency of exercise, and so on. Then, to test the role of moderation of SRL in the relationship between goal setting and academic performance, interaction analysis (moderated regression analysis) was used with the help of SPSS software using macro-PROCESS by Andrew Hayes (Model 1). Standardize (mean-centering) and moderator (SRL) variables.

The Moderation Analysis technique used in the study is by taking several steps, namely, the first step is to determine the interaction variable (Goal Setting * SRL), then the second step is to perform a tiered regression by including the Goal Setting and SRL variables and adding interaction variables. Then, in the third step, if the coefficient of the interaction variable is significant ($p < 0.05$), then SRL acts as a moderator. Finally, if necessary, simple slope analysis can be used to interpret the influence on high and low SRL levels. After the data analysis is completed, the researcher will continue to interpret the results of the analysis and discuss the findings in the context of theory and previous research, as well as compile a systematic research report for academic purposes.

RESULT AND DISCUSSION

This study involved 232 participants with diverse demographic characteristics. Based on gender, the distribution of participants showed a relatively balanced proportion between males and females. Judging from age, the majority of participants were in the early adulthood age range, which indicates that most of the respondents were in the early stages of their college life. Overall, the distribution of the characteristics of the participants in this study can be seen in **Table 1**

Table 1. Description of Participant Demographics

Demographics	Remarks	Frequency	Percentage
Gender	Male	120	51.7%
	Women	112	48.3%
Age	18 years old	3	1.3%
	19 years old	119	51.3%
	20 years	74	31.9%
	21 years old	22	9.5%
	22 years old	9	3.9%
	23 years old	4	1.7%
	24 years	1	0.4%
Semester	2 (two)	61	26.3%
	3 (three)	108	46.6%
	4 (four)	16	6.9%

	5 (lime)	32	13.8%
	6 (six)	4	1.7%
	7 (seven)	7	3.0%
	8 (eight)	4	1.7%
Sports	Basketball	64	27.6%
	Football	34	14.7%
	Futsal	21	9.1%
	Badminton	27	11.6%
	Swimming	24	10.3%
	Taekwondo	38	16.4%
	Wushu	24	10.3%

Source: Primary Data, Processed

The distribution of 232 participants, based on gender, consisted of 51.7% males and 48.3% females, so the distribution was relatively balanced. Looking at age, the majority were in the range of 19–20 years (51.3% and 31.9%), indicating that most participants were in the early phase of their college studies. In the semester category, the most participants were in semester 3 (46.6%), followed by semester 2 (26.3%) and semester 5 (13.8%). This indicates that most of the participants are undergoing a period of core learning and transition to the intermediate level in lectures. Regarding sports, the most dominant distribution comes from Basketball (27.6%), followed by Taekwondo (16.4%) and Football (14.7%). This shows that the sample is dominated by team and martial arts sports, which generally have a regular workout intensity as well as stable physical and mental demands.

Initial analysis is carried out to ensure the quality of the research data. The test covers the basic assumptions in regression analysis. Each assumption is tested using relevant statistical indicators. The test results are the basis for the feasibility of further analysis. A summary of the test results is presented in **Table 2**.

Table 2. Classic Assumption Test

Testing	Variable	p	a	Remarks
Normality	Unstandardized Residual	0.053	> 0.05	All variables are normally distributed.
Linearities	Self-Regulated Learning x IPK	0.816	> 0.05	All variables meet the criteria for linearity test
	Goal Setting x GPA	0.697	> 0.05	
Heteroskedasticities	Self-Regulated Learning	0.124	> 0.05	All variables did not occur symptoms of heteroscedasticity.
	Goal Setting	0.489	> 0.05	
		Tolerance	LIVE	
Multicollinearities	Self-Regulated Learning	0.599	1.670	All variables do not have multicollinearity problems.
	Goal Setting	0.921	1.703	

Source: Primary Data, Processed

Based on **Table 2**, all classical assumptions are fulfilled in the research model. The normality test shows that the residual is distributed normally according to the criteria. The linearity test indicates that the relationships between variables are linear. The heteroscedasticity test showed that there was no non-constant residual variance. In addition, no indication of multicollinearity between variables was found in the model.

The data overview is analyzed through descriptive statistics. Each variable is calculated the size of its concentration and its spread. The relationship between variables was also reviewed chorally. This information provides initial context to the research data. A summary of the results of the analysis is presented in **Table 3**.

Table 3. Description of Statistics and Correlation of Study Variables

Variable	Mean	Hours	1	2	3
Academic Performance (GPA)	3.57	0.268	–		
Self-Regulated Learning	83.72	11.914	0.461	–	
Goal Setting	102.10	15.329	0.159	0.633	–

1 = Academic Performance; 2 = Self-Regulated Learning; 3 = Goal Setting

Source: Primary Data, Processed

Based on Table 3, all variables show sufficient value variation. The mean values and standard deviations describe a relatively stable distribution of data. Self-regulated learning has a positive relationship with academic performance. Goal setting also shows a positive relationship with academic performance. In addition, self-regulated learning is positively correlated with goal setting. Table 3 presents descriptive statistics as well as correlations between research variables. The average age of the participants was 19.70 years (SD = 0.98), with the gender composition having a mean value of 1.48 (SD = 0.50). The study semester showed an average score of 3.34 (SD = 1.36), while the sports followed had a mean of 3.53 (SD = 2.16). Academic performance has an average GPA of 3.57 (SD = 0.27). The self-regulated learning variable had a mean value of 83.72 (SD = 11.91), while the goal setting had a mean of 102.10 (SD = 15.33).

Hypothesis testing was carried out using a moderation regression approach. The model is designed to test the relationships between key variables. The role of moderator variables is analyzed within the framework of the model. This approach allows for the evaluation of interactions between variables. The results of the model estimate are presented in **Table 4**.

Table 4. The Role of Goal Setting Moderation on the Relationship between Self-Regulated Learning and Academic Performance (Hypothesis 1)

Model Summary	R	R ²	F	p
	0.6554	0.4296	57.2353	.0000
Model 1	b	SE	t	p
Academic Performance (GPA)	3.5952	0.0167	215.5794	0.0000
Self-Regulated Learning	0.0191	0.0015	13.0466	0.0000
Goal Setting	0.0103	0.0011	9.1406	0.0000
Interaction:				
Self-Regulated Learning x Goal Setting	0.0002	0.0001	2.1909	0.0295

Source: Primary Data, Processed

Based on Table 4, the results of the moderation analysis show the role of goal setting in the relationship between self-regulated learning and academic performance. The resulting regression model had values of $R = 0.6554$ and $R^2 = 0.4296$, with values of $F = 57.2353$ ($p <$

.001), indicating that the model was significant overall. In Model 1, self-regulated learning had a coefficient of $\beta = 0.0191$ (SE = 0.0015; $t = 13.0466$; $p < .001$), while goal setting had a coefficient of $\beta = 0.0103$ (SE = 0.0011; $t = 9.1406$; $p < .001$). The effect of interaction between self-regulated learning and goal setting showed a coefficient of $\beta = 0.0002$ (SE = 0.0001; $t = 2.1909$; $p = .030$). These findings suggest that goal setting plays a significant moderator in the relationship. Visualization is used to clarify the results of moderation analysis. The graph shows the patterns of relationships between variables in the model. The difference in moderator levels is visualized through a regression line. The visual approach helps to interpret the results intuitively. A graphical representation is presented in **Figure 2**.

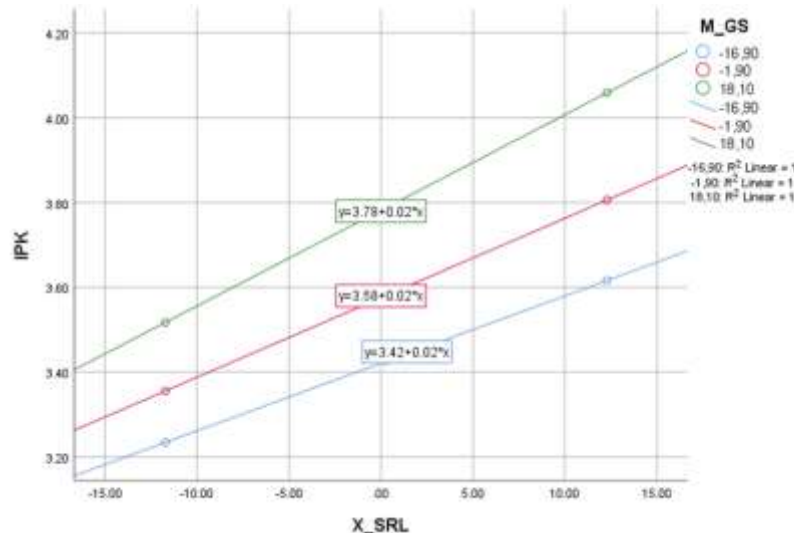


Figure 1. Study 1: The Effect of Goal Setting Moderation on the Relationship between Self-Regulated Learning and Academic Performance
Source: Primary Data, Processed

Figure 1 shows a graph illustrating the relationship between self-regulated learning and academic performance at three levels of goal setting, namely -16.90 , -1.90 , and 18.10 . The three regression lines show a positive slope with their respective equations, i.e. $y = 3.42 + 0.02x$ for the low goal-setting level, $y = 3.58 + 0.02x$ for the medium level, and $y = 3.78 + 0.02x$ for the high level. This pattern shows that increased self-regulated learning is followed by improved academic performance at all levels of goal setting. In addition, lines with higher goal-setting rates are consistently higher. Overall, academic performance scores are in the range of 3.20 to 4.20.

Follow-up analysis was carried out based on sports groups. This approach aims to see the consistency of the model in the subgroup. Each group was analyzed using a corresponding model. Comparison of results provides a deeper contextual understanding. The results of the analysis of sports groups are presented in **Table 5**.

Table 5. The Role of Goal Setting Moderation on Self-Regulated Learning and Academic Performance Based on Differences in Sports

Sports	F (Sig.)	Variable	Beta	t	Say.
Basketball	9.404 (0.000)	PA	—	16.448	0.000

		SRL	0.788	5.287	0.000
		PT	0.449	3.108	0.003
		PT × SRL	-0.129	-1.138	0.260
		PA	—	11.362	0.000
Football	19.909 (0.000)	SRL	0.977	7.660	0.000
		PT	0.546	4.206	0.000
		GS × SRL	-0.051	-0.460	0.649
		PA	—	10.027	0.000
Futsal	1.692 (0.207)	SRL	-0.021	-0.065	0.949
		PT	0.420	1.484	0.156
		PT × SRL	-0.282	-1.073	0.298
		PA	—	10.815	0.000
Badminton	24.445 (0.000)	SRL	1.172	7.543	0.000
		PT	0.923	6.651	0.000
		PT × SRL	-0.148	-1.207	0.240
		PA	—	7.219	0.000
Swimming	2.971 (0.056)	SRL	0.528	2.121	0.047
		PT	0.585	2.388	0.027
		PT × SRL	-0.179	-0.926	0.366
		PA	—	12.721	0.000
Taekwondo	16.077 (0.000)	SRL	1.028	6.720	0.000
		PT	0.568	3.801	0.001
		PT × SRL	-0.357	-3.097	0.004
		PA	—	10.494	0.000
Wushu	2.837 (0.064)	SRL	0.731	2.830	0.010
		PT	0.378	1.490	0.152
		PT × SRL	-0.035	-0.181	0.858
		PA	—	10.494	0.000

PA: Academic Performance; SRL: Self-Regulated Learning; PT: Determination of Direction; PT x SRL: Interaction of Goal Setting and Self-Regulated Learning

Source: Primary Data, Processed

Based on Table 5, there are variations in results between sports. Some branches show significant influence on key variables. The effects of interactions also varied between the groups analyzed. These findings suggest that the role of moderation is not uniform. These variations reflect the differences in the characteristics of each sport. Table 5 shows the results of regression analysis in each sport, which indicates variations in the power of models in predicting academic performance. In basketball, the regression model was significant with $F = 9.404$ ($p < .001$) and $R^2 = .320$, in which self-regulated learning (SRL) and goal setting (PT) made significant contributions, while the interaction effect was not significant.

In the football branch, the model showed relatively high strength with $R^2 = .666$ and $F = 19.909$ ($p < .001$), with SRL and PT as significant predictors with no interaction contribution.

Unlike the two branches, the model in futsal was not significant ($F = 1.692$; $p = .207$), and all predictors, including SRL, PT, and interaction, showed no significant influence. In badminton, the model had the highest strength ($R^2 = .761$) and significant ($F = 24.445$; $p < .001$), with SRL and PT as significant predictors, while the effect of the interaction remained insignificant. In swimming, the model was at the limit of significance ($F = 2.971$; $p = .056$), with SRL and PT as significant predictors, but the interaction did not make a significant contribution.

In the taekwondo branch, the regression model was significant ($F = 16.077$; $p < .001$) with $R^2 = .587$, where SRL and PT had a significant effect, and was the only branch that showed a significant interaction effect. Meanwhile, in the wushu branch, the model was at the limit of significance ($F = 2.837$; $p = .064$), with only SRL as a significant predictor, while PT and interaction were not significant. Overall, the results showed that the strength of the regression model varied between sports, with the strongest models found in badminton and football, and the moderation effect was only significant in taekwondo.

The results of this study show that goal setting does not moderate the relationship between self-regulated learning (SRL) and academic performance. Rather, the study presents a new finding that SRL plays a consistent and strong predictor of the academic performance of student-athletes. These findings are in line with the literature that confirms that SRL serves as a core mechanism in the management of the learning process through planning, monitoring, and self-evaluation strategies (Zimmerman, 2008; Baker, 2017). Recent research on student-athletes has also found that self-regulation has a direct contribution to academic resilience and the quality of academic achievement even as individuals face the pressures of training and competition (Martin et al., 2023). The relatively high average SRL in the sample shows that the student-athletes in this study have a good enough adaptive capacity to balance academic demands and sports demands. This is in line with the findings of Yıldırım and Demir (2022), who stated that athletes with more mature self-regulation skills tend to have stable academic performance even when faced with an intensive training schedule.

Then, the study also found that the goal setting variable also showed a significant influence on the Cumulative Achievement Index (GPA). This result reinforces the classic theory of Locke and Latham (2002) which states that specific, challenging, and realistic goals are able to increase perseverance, business direction, and effectiveness of individual learning strategies. Student-athletes who set clear academic goals tend to build a more disciplined and structured learning orientation, thus facilitating better academic performance. A study by Wolters et al. (2021) supports these findings, where students who have short-term and long-term goals show more stable motivation and the ability to manage distractions in the context of academic and non-academic dual demands.

A key finding in this study is the presence of a significant moderation effect of GS on the relationship between SRL and GPA. The effect of this interaction suggests that goal setting serves as an amplifier of SRL effectiveness. In other words, students with high SRL levels can only maximize their impact on academic performance when they also have a high GS. This pattern is consistent with the theoretical model of the self-regulatory cycle, in which goals act as cognitive anchors that provide direction for self-regulatory strategies (Schunk & Greene, 2018). Research on university athletes by Bartulovic et al. (2017) also showed that SRL is most effective at improving academic outcomes when individuals have a clear goal framework, so that their learning efforts become more focused, measurable, and directed.

\

Analysis by sport shows interesting dynamics and provides additional context for the interpretation of the findings. Branches such as Football and Badminton show the high power of regression models with significant contributions from SRL and GS. This sport generally has a structured training system, a routine performance evaluation pattern, and a culture of high discipline factors that can support the formation of self-regulation habits and goal setting. Studies from MacNamara et al. (2018) show that athletes from sports with a systematic training structure tend to develop psychological competencies such as discipline, focus, and self-control which are then carried over to the academic context.

Furthermore, Taekwondo is the only sport that shows significant moderation. These findings are in line with the martial arts literature that emphasizes the internalization of values such as concentration, emotional control, personal purpose, and self-reflection (Lakes & Hoyt, 2004). Taekwondo athletes in this study are likely to use personal goals as an internal orientation that strengthens self-regulation strategies, so that the interaction between $GS \times SRL$ becomes significant. In contrast, the Futsal branch did not show a significant relationship between SRL, GS, or interaction effects. This phenomenon can be attributed to the more dynamic, improvisational, and situational characteristics of futsal that can affect the self-regulation pattern of athletes as well as the stability of their goal orientation (Travassos et al., 2012).

Descriptive findings showed that demographic variables of age, gender, semester, and sport were not correlated with GPA. This pattern confirms that the academic performance of student-athletes is determined more by internal psychological factors than by socio-demographic characteristics. Previous literature has also reported that intrapersonal factors such as SRL and academic goals have a stronger influence on achievement than demographic factors (Credé & Phillips, 2011; Dent & Koenka, 2016). Thus, self-regulation capacity building and goal setting emerged as a more effective intervention strategy to support student-athletes universally, regardless of background variations.

Like research in general that is not spared from weaknesses, this research also has shortcomings. First, this research is only spread to 7 universities in Indonesia, but does not cover the entire area of Indonesia, so the generalization of the results of this research is still very limited. Then, second, the use of the Cumulative Achievement Index (GPA) as the only indicator of academic performance may not fully represent the aspects of academic performance comprehensively. Finally, this study has not considered other contextual factors, such as social support, exercise load, and psychological condition, that could potentially influence the relationship between self-regulated learning, goal setting, and academic performance.

Overall, the results of this study confirm the importance of integrating SRL and GS strategies in the academic assistance program for athletes. The combination of the two not only contributes to a better GPA, but also improves students' ability to manage dual demands on an ongoing basis. Interventions that train student-athletes to set specific goals, monitor progress, and organize learning strategies can strengthen their academic competitiveness, as suggested in the literature on the effectiveness of self-regulation training in the athlete population (Toering et al., 2012).

CONCLUSION

This study concluded that goal setting does not moderate the relationship between self-regulated learning (SRL) and academic performance, but SRL and goal setting have a significant effect independently rather than as a moderator on the academic performance of student athletes. SRL has been shown to be a strong predictor of GPA, while GS helps to improve academic achievement through clear and targeted goal setting. Another important finding was that goal setting moderated the relationship between SRL and GPA, where the influence of SRL became stronger in students with high GS. Analysis by sport showed variation, but demographic factors were not related to GPA, so academic achievement was more determined by internal psychological factors. These results indicate that the strengthening of SRL and goal-setting abilities need to be optimized in student-athlete development programs to improve their academic performance. Self-regulation and goal setting training programs can be integrated into academic and sports coaching. For future research, it is recommended to expand the sample coverage to more universities and regions in Indonesia to improve the generalizability of the findings. Additionally, future studies should consider incorporating other contextual factors such as social support, training load, and psychological well-being, as well as using longitudinal designs to examine the causal dynamics between SRL, goal setting, and academic performance over time. Practical suggestions for universities include providing workshops on self-regulated learning strategies and goal-setting techniques for student-athletes, as well as establishing mentoring programs that involve academic advisors and coaches working collaboratively to support student-athletes in balancing their dual roles effectively.

REFERENCES

- Andriawan, S. (2014, March 14). Terapkan aturan ketat, LIMA anggap itu jadi kelebihan. Berita Satu. <https://www.beritasatu.com/news/173778/terapkan-aturan-ketat-lima-anggap-itu-jadi-kelebihan>
- Bartulovic, D., Young, B. W., & Baker, J. (2017). Self-regulated learning predicts academic but not athletic performance in competitive male athletes. *Learning and Individual Differences*, 57, 104–111. <https://doi.org/10.1016/j.lindif.2017.06.011>
- Breslin, G., Shannon, S., Cummings, M., & Leavey, G. (2022). An updated systematic review of interventions to increase awareness of mental health and well-being in athletes, coaches, officials and parents. *Systematic Reviews*, 11(1). <https://doi.org/10.1186/s13643-022-01932-5>
- BINUS Student Athlete Scholarship. (2025). <https://binus.ac.id/athletescholarship/>
- Comeaux, E., & Harrison, C. K. (2011). A conceptual model of academic success for student-athletes. *Educational Researcher*, 40(5), 235–245. <https://doi.org/10.3102/0013189X11415260>
- Credé, M., & Phillips, L. A. (2011). A meta-analytic review of the motivation and academic achievement relationship in sport populations. *Educational Psychology Review*, 23(1), 73–89. <https://doi.org/10.1007/s10648-010-9137-6>
- Dent, A. L., & Koenka, A. C. (2016). The relation between self-regulated learning and academic achievement across childhood and adolescence: A meta-analysis. *Educational Psychology Review*, 28(3), 425–474. <https://doi.org/10.1007/s10648-015-9320-8>

- Di Lu, L., Heinze, K. L., & Soderstrom, S. (2018). Playing multiple positions: Student-Athlete identity salience and conflict. *Journal of Intercollegiate Sport*, 11(2), 214–241. <https://doi.org/10.1123/jis.2018-0034>
- Fajarwati, A., Maryani, I., & Universitas Ahmad Dahlan. (2023). Pengaruh Self-Regulated Learning terhadap hasil belajar IPA siswa kelas V sekolah Dasar. *Jurnal MIPA Dan Pembelajarannya*, 3(4), 173–182. <https://doi.org/10.17977/um067v3i4p173-182>
- Kalén, A., Rey, E., & Lago-Peñas, C. (2021). Performance of professional basketball players by age and playing position. *Research in Sports Medicine*, 29(1), 1–13. <https://doi.org/10.1080/15438627.2020.1809411>
- Lailvaux, S. P., Wilson, R. S., & Kasumovic, M. M. (2014). Trait compensation and performance trade-offs in professional basketball players. *Evolution*, 68(10), 2603–2608. <https://doi.org/10.1111/evo.12375>
- Lakes, K. D., & Hoyt, W. T. (2004). Promoting self-regulation through school-based martial arts training. *Journal of Applied Developmental Psychology*, 25(3), 283–302. <https://doi.org/10.1016/j.appdev.2004.04.002>
- Li, J., Ye, H., Tang, Y., Zhou, Z., & Hu, X. (2018). What are the effects of self-regulation phases and strategies for Chinese students? A meta-analysis. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.02434>
- Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969–1980. *Psychological Bulletin*, 90(1), 125–152. <https://doi.org/10.1037/0033-2909.90.1.125>
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, 57(9), 705–717. <https://doi.org/10.1037/0003-066X.57.9.705>
- MacNamara, Á., Collins, D., & Cruickshank, A. (2018). Developing mental toughness: Lessons from elite athletes. *Journal of Sport Psychology in Action*, 9(1), 1–10. <https://doi.org/10.1080/21520704.2016.1255493>
- Martin, K., Wilson, R., & Evans, M. B. (2023). Academic resilience and self-regulated learning among student-athletes: A structural model. *Journal of Applied Sport Psychology*, 35(2), 345–360. <https://doi.org/10.1080/10413200.2021.1974666>
- Mesagno, C., & Beckmann, J. (2017). Choking under pressure: Theoretical models and interventions. *Current Opinion in Psychology*, 16, 170–175. <https://doi.org/10.1016/j.copsyc.2017.05.015>
- Mitchell, Q. P. (2024, August 23). Perceptions of former collegiate athletes on career transition programs in the NCAA. *The Sport Journal*. <https://thesportjournal.org/article/perceptions-of-former-collegiate-athletes-on-career-transition-programs-in-the-ncaa/>
- NCAA.org. (2023, February 10). Academic Performance Program penalties to return for 2024–25. <https://www.ncaa.org/news/2023/2/10/media-center-academic-performance-program-penalties-to-return-for-2024-25.aspx>
- NCAA.org. (2025, May 6). Division I student-athletes maintain consistent academic success. <https://www.ncaa.org/news/2025/5/6/media-center-division-i-student-athletes-maintain-consistent-academic-success.aspx>
- Rey, R. T., & Johnson, Z. D. (2021). “Detrimental to the team dynamic”: Exploring college

- student-athlete dissent. *Communication & Sport*, 11(1), 175–191. <https://doi.org/10.1177/21674795211001938>
- Santos, J. C., & Sagas, M. (2023). Academic identity, school belongingness, athletic identity, and athletic expectations as predictors of academic and athletic time use of college athletes. *Physical Culture and Sport Studies and Research*, 100(1), 9–23. <https://doi.org/10.2478/pcssr-2023-0015>
- Schunk, D. H., & Greene, J. A. (2018). *Handbook of self-regulation of learning and performance* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315697048>
- Stead, J., Poolton, J., & Alder, D. (2022). Performance slumps in sport: A systematic review. *Psychology of Sport and Exercise*, 61, 102136. <https://doi.org/10.1016/j.psychsport.2022.102136>
- Stephens, N. P. (2019). Life after sports: An exploration of the academic challenges facing student-athletes. *Boller Review: Journal of Undergraduate Research & Creativity (TCU)*.
- Steele, A., Van Rens, F., & Ashley, R. (2020). A systematic literature review on the academic and athletic identities of student-athletes. *Journal of Intercollegiate Sport*, 13(1), 69–92. <https://doi.org/10.17161/jis.v13i1.13502>
- Sulisworo, D., Fitriawanati, M., Maryani, I., Hidayat, S., Agusta, E., & Saputri, W. (2020). Students' self-regulated learning (SRL) profile dataset measured during COVID-19 mitigation in Yogyakarta, Indonesia. *Data in Brief*, 33, 106422. <https://doi.org/10.1016/j.dib.2020.106422>
- Travassos, B., Araújo, D., Davids, K., & Esteves, P. (2012). Performance analysis in team sports: Advances from an ecological dynamics approach. *International Journal of Performance Analysis in Sport*, 12(1), 112–125. <https://doi.org/10.1080/24748668.2012.11868683>
- Toering, T., Elferink-Gemser, M. T., Jordet, G., & Visscher, C. (2012). Self-regulation and performance level of elite and non-elite youth soccer players. *Journal of Sports Sciences*, 30(16), 1605–1614. <https://doi.org/10.1080/02640414.2012.709263>
- Wolters, C. A., Won, S., & Hussain, M. (2021). Examining the relations of achievement goals to studying strategies and achievement in college students. *Educational Psychology*, 41(5), 651–669. <https://doi.org/10.1080/01443410.2020.1826326>
- Wu, C., Zhao, Y., Yin, F., Yi, Y., Geng, L., & Xu, X. (2024). Mental fatigue and sports performance of athletes: Theoretical explanation, influencing factors, and intervention methods. *Behavioral Sciences*, 14(12), 1125. <https://doi.org/10.3390/bs14121125>
- Zakariyya, F., & Koentjoro, K. (2019). Pelatihan “goal setting” untuk meningkatkan orientasi masa depan pada siswa SMP. *Gajah Mada Journal of Professional Psychology (GamaJPP)*, 3(3), 136. <https://doi.org/10.22146/gamajpp.44081>
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2
- Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, 45(1), 166–183. <https://doi.org/10.3102/00028312073129>