

# Factors Related to the Competition Success of Student-Athletes towards a Framework for Successful Performance

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**Abstract** There are many factors affecting the sports performance of student-athletes. Describing the association of these factors with their sports performance may help sports administrators and coaches understand student-athletes' needs which could lead to successful sports performance. The study aimed to identify the significant relationship between the profile and sports performance of student-athletes and the subsequent factors: personal factor, psychological factor, coaching factor, academic factor, administrative factor, and health factor. This descriptive correlation research involved 30 male and 40 female student-athletes who answered a modified questionnaire on Factors Affecting Student-Athletes in their Sports Performance. Descriptive statistics including frequency distribution and percentage were used to describe student-athletes' profiles, sports performance, and factors. Also, Pearson r correlation analysis was computed to test the significant relationship of the profile, factors, and sports performance. Results indicated that student-athletes strongly agree that all the factors affect their sports

performance, especially personal factor, coaching factor, and psychological factor. Additionally, student-athletes agree that health factor and academic factor affect their sports performance. Furthermore, results also show that student-athletes' profile was not associated with their performance rank. Meanwhile, all factors except academic factor were significantly related to sports performance. Furthermore, based on the findings, a framework for the successful performance of student-athletes was designed, emphasizing more importance on personal factors and administrative factors while also showing the other factors supporting the athlete's development in terms of training and competition. The model framework could be a viable tool to guide sports administrators and coaches on the successful sports performance of student-athletes.

**Keywords** Success in Sports, Competition, Sports Performance, Student-Athletes, Model Framework

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## 1. Introduction

Sports have become integral to our lives and have benefited individuals and society. Engaging in sports is indeed beneficial for physical health and has positive effects on mental, social, and emotional well-being [1]. Numerous studies demonstrate the positive impact of sports on physical health, including reducing the risk of obesity, diabetes, and cardiovascular diseases [2]. Furthermore, sports participation has been linked to mental health benefits, such as reducing anxiety, depression, and stress [3]. Sports also promote social interaction and teamwork and help in developing essential life skills [4].

Successful sports performance is a complex phenomenon that involves various factors, such as physical fitness, skill level, motivation, and psychological factors [5]. It is essential for the coach to address these factors to develop and improve the athletes' performance and overall well-being. In the Philippines, research in the sports field generally aimed to understand the sports performance factors [6, 7]; however, contradicting results emerged from these studies.

Factors influencing sports performance can be broadly categorized into personal, psychological, coaching, academic, administrative, and health-related factors [7]. Personal factors such as physical attributes, personality, previous experience, and learning style can also impact sports performance [8-11]. Additionally, psychological factors such as motivation, confidence, mental toughness, anxiety, and stress play a crucial role in an athlete's ability to perform at his/her best [12-15]. Coaching factors such as coaching style, feedback, and communication also significantly impact performance, and an athlete's academic factors, such as educational attainment and academic achievement, can affect their sports performance [16-18]. Moreover, administrative factors such as quality facilities and resources and supportive policies and procedures can also influence sports performance [19-21]. Finally, health-related factors such as nutrition, sleep, and injury prevention are essential for optimizing sports performance [22].

Despite extensive research on sports performance, there is still a gap in understanding the interplay between the various factors and their impact on sports performance. Additionally, more research is needed to explore these factors that can affect the athletes' success in competition. Understanding these complex relationships can provide insights into developing effective strategies to achieve their goals, excel in their chosen sport, and optimize their performance to reach their full potential.

Therefore, this study aimed to examine the significant relationship of the competition success of student-athletes to their demographic profile and the different actors such as personal, psychological, coaching, academic, administrative, and health factors. This study also proposed a model framework that could guide coaches and athletes in handling the different factors resulting in successful

competition performance.

## 2. Methods

### 2.1. Study Design and Respondents

This descriptive correlational research examined the relationship of the different factors related to student-athletes' success in competition. It was participated by student-athletes who answered an adopted questionnaire on their demographic profile, performance rank, and factors affecting sports performance. Based on the results, the output of this study was a proposed framework for successful sports performance which may guide athletes and coaches in their training and competition.

Purposive sampling was utilized in the study. Only student-athletes who participated in the recent regional competition in 2023 were the study's respondents. The respondents were student-athletes playing various sports from a state university in Central Luzon. There were 30 male and 40 female respondents. The age range of the respondents is 20 to 27 years old. The length of the playing years of the respondents ranged from one (1) to seven (7) years. The sports of the respondents are individual, dual, combative, and team sports.

### 2.2. Instrument

This study adopted the questionnaire of Morales [7], in the study titled "Factors affecting student-athletes in their sports performance," which is a five-point Likert scale with 60 questions that determine the factors (i.e., personal, psychological, coaching, academic, administrative, and health) affecting the student-athletes' sports performance. The respondents were asked to indicate their degree of agreement or disagreement, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was tested for reliability before the actual administration. The Cronbach's alpha for all items for this study is 0.86.

### 2.3. Procedure

The respondents were informed about the study's objective and their rights as respondents. Also, they were required to sign a written consent form before participating in the study. The respondents were then asked to complete a Google form questionnaire requesting their demographic details, performance statistics, and factors that may have impacted their performance in the recent regional competition. There was no time constraint to complete the questionnaire, and confidentiality was assured to the respondents.

### 2.4. Data Analysis

The data collected were examined using descriptive and

correlation analyses. To describe the demographic and performance ranks of the student-athletes, frequency distribution and percentage were utilized. On the other hand, the mean and standard deviation were employed to evaluate the factors that influenced sports performance. Furthermore, to examine the relationship of the athletes' demographic profile, performance rank, and factors for sports performance, Pearson r correlation was used. A p-value of less than 0.05 was considered statistically significant.

### 3. Results and Discussion

#### 3.1. Performance Rank of the Student-Athletes

Table 1 reveals the performance rank of the sample of student-athletes from various sporting events in a state university in Central Luzon in the regional competition for the year 2023. As shown in the table, eight student-athletes, or 11.43 %, were in first place. Ten student-athletes, or 14.29%, were in second place, and thirteen student-athletes, 18.57%, were in third place. Fourteen student-athletes, or 20.00%, were in fourth place, twelve student-athletes, or 17.14%, were in fifth place, and thirteen student-athletes, or 18.57%, ranked sixth place and lower. The performance rank data show a varied distribution with descending percentages for the subsequent ranks, highlighting the competitive nature of the competition and the diverse skills and abilities of the region's student-athletes. Despite the intense competition, the school performed admirably and achieved the top three of the regional competition, which is an exceptional accomplishment.

**Table 1.** Performance Rank of the Student-Athletes in the Regional Competition

Performance Rank	N=70	
	F	%
1	8	11.43
2	10	14.29
3	13	18.57
4	14	20.00
5	12	17.14
Lower	13	18.57

#### 3.2. Relationship of Profile of the Student-Athletes and their Performance Rank

Table 2 reveals the significant relationship and correlation between the demographic profile of the student-athletes with their performance rank during the regional competition of the year 2023. As shown in the table, there is *No Significant Relationship* between the demographic

profile and the performance rank of the respondents with p-values higher than .05 level of significance. Results suggest that sex, length of playing years, and sports played by athletes were not associated with their performance rank in regional competitions.

**Table 2.** Demographic Profile vs Performance

Variables	p-value Sig. (2-tailed)	Interpretation
sex vs performance	0.481	Not Significantly Related
length of playing years vs performance	0.225	Not Significantly Related
sports played vs performance	0.311	Not significantly related

\*significant at 0.05 level of significance

#### 3.3. Descriptive and Correlation Results of the Factors Affecting the Sports Performance of the Student-Athletes

##### 3.3.1. Personal Factor and Sports Performance

Table 3 shows the student-athletes' scores on personal factor and sports performance. For the descriptive analysis, the respondents "*Strongly Agreed*" that personal factor significantly impacted sports performance, based on the mean and standard deviation of  $4.16 \pm 0.38$ . This finding lends credence to the notion that personal factors play a significant role in an athlete's success. The same result was found by Gonzales [6] and Morales [7] in their studies on the relationship between student-athletes' personal factors and sports performance.

As shown in Table 3, the relationship between the personal factor and student-athlete sports performance had a *Significant Relationship* with a p-value of 0.00. This result is consistent with the study of Manchado et al. [23], which found that athletes with better physical and physiological traits such as being taller, having higher fat-free mass, and better aerobic resistance, tend to have higher skill levels and perform better. Similarly, Girard and Millet [24] found that physical attributes strongly influence tennis performance in teenage players. Additionally, several studies reported that cognitive ability [25-27], personality [28-29], and learning style [30] are related to successful performance in sports. Accordingly, personal factors such as personality traits and physical attributes are necessary to achieve the best results in sports competition.

Contrary to this, the study of Morales [7] found no significant relationship between personal factor and sports performance. According to the data, physical and cognitive abilities affect student-athletes' sports performance. However, the present study supports earlier research that emphasizes personal factors.

**Table 3.** Descriptive and Correlation Values of Student-Athletes' Performance and Factors Affecting Performance

Factors	Mean $\pm$ SD	Descriptive Rating	p-value Sig. (2-tailed)	Interpretation
Personal Factor	4.16 $\pm$ 0.38	Strongly Agreed	0.00*	Significantly Related
Psychological Factor	4.01 $\pm$ 0.41	Strongly Agreed	0.03*	Significantly Related
Health Factor	3.48 $\pm$ 0.43	Agreed	0.04*	Significantly Related
Coaching Factor	4.03 $\pm$ 0.31	Strongly Agreed	0.01*	Significantly Related
Administrative Factor	3.25 $\pm$ 0.60	Agreed	0.01*	Significantly Related
Academic Factor	3.27 $\pm$ 0.38	Agreed	0.39	Not Significantly Related

\*significant at 0.05 level of significance

### 3.3.2. Psychological Factor and Sports Performance

The findings on psychological factor and sports performance revealed that student-athletes “*Strongly Agreed*” on the importance of psychological factor in their sports performance as shown in Table 3. Data showed that the student-athletes agree that psychological factors influence their sports performance with a mean and SD of 4.01  $\pm$  0.41. This result is consistent with the findings of Gonzales [6] in the study on psychological factors on high school students and sports performance.

Also, table 3 revealed that psychological factors are *Significantly Related* to athletes' sports performance with a p-value of .03. This finding is consistent with previous research. In a study by Asghar et al. [31], it was found that there was a strong link between an athlete's psychology and their athletic performance. The study in fact revealed that the athletes' thoughts, feelings, and mental states all play a role in their ability to perform at a high level. Similarly, Pang et al. [32] identified psychological quality, mental toughness, and self-confidence as significant predictors of athletic performance. Additionally, Mendez-Alonso et al. [33] identified mental toughness, resilience, and passion as critical for success in ultra-trail mountain races, and emphasized the importance of psychological factors in various athletic settings. Finally, Rossi et al. [34] discovered that psychological parameters such as anxiety, motivation, tension, anger, and nervousness could significantly influence an athlete's performance in judo competitions. Motivation, a psychological factor, is essential for success in many sports and physical activities [35]. In contrast, Gonzales [6] found that psychological factors are unrelated to sports performance. Overall, the findings suggest that coaches should place a greater emphasis on psychological training in addition to physical training to improve their athletes' performance and well-being. This approach is consistent with the growing recognition of the importance of mental health in sports and the increased use of mental skills training programs by coaches and athletes.

### 3.3.3. Health Factor and Sports Performance

The respondents “*Agreed*” that health was a factor in their sports performance, with a mean and SD of 3.48  $\pm$  0.43 (Table 3). This result is consistent with the findings of

Gonzales [6] in the study on health factors on high school students and sports performance.

Moreover, it was indicated in Table 3 that there was a *Significant Relationship* between health factor and sports performance with a p-value of .04. This shows that the respondents considered the health factor an essential quality to succeed in sports. The findings of the study support the understanding that health is a significant factor in sports performance among student-athletes, corollary to the findings of Logue et al. [36]. The respondents' strong agreement emphasizes the importance of discipline, nutrition, avoidance of vices, and health monitoring in maximizing athletic potential and achieving desired goals as explained by Thomas et al. [37]. They further reiterate that coaches, trainers, and athletes should prioritize these aspects to ensure student-athletes' holistic well-being and success in their sporting endeavors. Further research and interventions in health promotion and management can contribute to optimizing sports performance and overall athlete development [38, 39].

### 3.3.4. Coaching Factor and Sports Performance

Table 3 shows the results on coaching factor and sports performance. With a mean and SD of 4.03  $\pm$  0.31, respondents “*Strongly Agreed*” that coaching was a factor in their sports performance. This outcome is consistent with Gonzales' [6] findings that coaching was a substantial influence in good sports performance. This means that respondents believe that coaches have a substantial impact on the development of student-athletes. In the study of Özşaker et al. [40], it was emphasized that coaches significantly contribute to student-athletes' development in terms of skills and full potential in sports. His study focused on the coach-athlete relationship to achieve greater success in sports.

Furthermore, data indicated that coaching factor has a *Significant Relationship* with sports performance with 0.01 (p-value). Results confirm the study of Pestano [41] that coaching factors such as coaching style, behavior, and competency are critical in the development of students' potential in sports. Similarly, Kim and Cruz [42] expressed that coaches influenced knowledge receptivity, decision-making, and skill recognition and refinement.

### 3.3.5. Administrative Factor and Sports Performance

The respondents, with a mean and SD of 3.25 and 0.60, *Agree* that the administrative factor affected how well they played sports as presented in Table 3. This outcome is in line with Gonzales' findings [6] from his investigation of the effects of administrative issues on high school pupils' athletic performance.

Furthermore, administrative factor has been considered *Significantly Related* to sports performance with a 0.01 (p-value). This only indicates that student-athletes are also influenced by the support given by school administrators for the training and competition. The results of this study coincide with the findings of Pestano and Ibarra [43] on assessing student-athletes' performance in sports competitions and that school sports facilities and human resources are vital in improving their performance in sports competitions.

### 3.3.6. Academic Factor and Sports Performance

Table 3 shows the findings on academic factor and sports performance. As shown in the table, a mean and standard deviation of  $3.27 \pm 0.38$  indicate that respondents "*Agreed*" that academic factors have a substantial impact on their athletic performance. This finding is consistent with Gonzales' [6] and Morales' [7] research on academic factors influencing high school students' athletic performance.

Regarding the relationship between student-athlete academic factor and competition success, a p-value of 0.39 indicated that academic factor had no significant association with student-athlete performance in sports games. This finding is consistent with Gonzales' [6] results, which found no significant relationship between academic factors and competition success. Academics may not impact student-athlete competition success because academics do not directly influence athletic performance. As a result, academic factors and student-athlete performance are complicated and warrant further investigation.

On the contrary, several studies suggest a relationship exists between academic achievement and sports performance [44, 45]. Although there was no link established between academic and sports performance in the current study, it is still an essential factor needed for the athletes to compete because they will only be allowed to participate in inter-school competitions if they meet the minimum academic requirements. As a result, coaches must regularly monitor the athletes' academic standing. In addition, coaches must constantly remind student-athletes that academic performance must be prioritized and that student-athletes must practice a good balance between studies and sports activities. Students-athletes do not enroll in schools only to practice sports and compete; they are in schools for academic endeavors and to obtain a degree.

## 3.4. Model Framework for Successful Sports Performance of Student-Athletes

Based on the study's findings, the researchers propose a

model framework that stakeholders can utilize as a guide for successful student-athlete sports performance. Figure 1 depicts the model structure for successful sports performance. The center of the figure represents the successful performance of student-athletes. The supporting outer circles represent the factors for successful sports performance, such as personal, administrative, psychological, coaching, academic, and health factors.



**Figure 1.** Model Framework for Successful Performance of Student Athletes

The outer portion of the framework shows that student athletes' performance is strongly linked to personal and administrative factors. Personal traits such as motivation, tenacity, goal-oriented, and a vision-driven attitude predict success. Meanwhile, administrative factors are a powerful predictor of effective student-athlete performance. Athletes need administrative assistance to hone their talents and skills and succeed in training and competition. Such support includes training facilities, equipment, allowances, food, uniforms, and scholarships. If the educational institution continues supporting student-athletes, they may perform better than in the previous years.

Next to the outer circle are the factors related to the development in intrapersonal and interpersonal of student-athletes which are vital in performing well in sports. Student-athletes are entitled to ensure their sense of support to themselves for intrapersonal growth. For the intrapersonal development factors, health and psychology are critical to having a confident sense of self. Health aspects such as a balanced diet, frequent exercise, and adequate sleep are essential in achieving a positive and healthy body for sports participation. Likewise, student-athletes must learn to manage their stress, concentrate, and be confident in their sports event.

In addition, academic factor partly contributes to the intrapersonal development of student-athletes by inculcating educational goals and by managing study habits

and sports habits. Coaches must constantly remind student-athletes to practice a good balance between studies and sports activities. By focusing on the intrapersonal factors, student-athletes become self-disciplined and self-assured, which are crucial to the success in sports and academics.

For interpersonal development, the academic and coaching factors significantly improve the athlete. These variables foster discipline for student-athletes in their studies, training, and competition. Having a dedicated coach, understanding teachers, and supportive school administrators play a vital role in the motivation and performance of student-athletes who represent their school in any sporting event. Thus, the proposed framework provides a holistic approach to developing successful performance of student-athletes in competitions.

#### 4. Conclusions

The study investigated the relationship between student-athlete competition success and various factors such as personal, psychological, coaching, academic, administrative, and health factors.

Results indicated that student-athletes strongly agree that all the factors affect their sports performance, especially personal factor, coaching factor, and psychological factor. Additionally, student-athletes agree that health factor and academic factor affect their sports performance.

Furthermore, the results indicated that all factors were highly related to successful sports performance, especially the personal, coaching, and psychological factors. The performance rank data show a varied distribution with descending percentages for the subsequent ranks. This highlights the competitive nature of the competition and the diverse skills and abilities of the region's student-athletes.

The findings however revealed no significant relationship between the athletes' demographic profile and their performance rank. Also, academic factors were found to be not significantly related to athletic performance. Meanwhile, personal factors, psychological factors, health factors, coaching factors, and administrative factors, on the other hand, were significantly related to sports performance.

Based on the findings, a model framework was proposed that illustrates a comprehensive approach to fostering successful sports performance among student-athletes. It emphasizes the significance of personal characteristics, administrative support, intrapersonal development, and interpersonal factors in maximizing athletic potential. Stakeholders can effectively support student-athletes in their sports endeavors and contribute to their overall success by considering and prioritizing these factors. Thus, the model framework could be a viable tool to guide sports administrators and coaches on the successful sports performance of student-athletes.

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