

How is the mental toughness of student-athletes? An investigation of elite student-athletes in Bengkulu City

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How is the mental toughness of student-athletes? An investigation of elite student-athletes in Bengkulu City

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ABSTRACT

The objectives to be achieved in this study are knowing the level of the mental toughness of student-athletes in Bengkulu City. This research applies a quantitative descriptive method through a causal-comparative design. The research population was 34 student-athletes from 5 sports. Determination of the sample using purposive random sampling. Data were collected using the Mental Toughness in Sport Questionnaire instrument. The data analysis technique uses standard deviation and the ideal mean to determine the level of the mental toughness of student-athletes, meanwhile to determine the level of the mental toughness of student-athletes who are reviewed based on sport and gender by hypothesis testing (one-way ANOVA and t-test) using SPSS. The results of data analysis found the category of the mental toughness of student-athletes in Bengkulu City was very high and there were no differences in the mental toughness of athletes from each sport and gender. However, this study has not yet discussed the strategies and mental training programs implemented by athletes in each sport. Therefore, it is recommended that researchers who have an interest in continuing this research are advised to study further the strategies and programs of athletes' mental training.

Keywords: Mental; toughness; students; athletes



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INTRODUCTION

Student-athletes have an important task in the world of sports and academic competitions (Kristiansen, 2017). Every student-athlete at all levels of competition should balance their academic and responsibilities towards the sports competition they participate in (Hendricks & Turner Johnson, 2016). To be able to run in a balanced way between the academic world and the world of sports is not an easy thing for student-athletes to do (Stoll, 2012). Many of the challenges faced by student-athletes include demands from the academic world to get a good cumulative achievement index (Brecht & Burnett, 2019), demands from coaches to win matches (Roxas & Ridinger, 2016), academic stress (Lopes Dos Santos et al., 2020), as well as conflicts that occur during matches (Martin et al., 2010). Various mental problems are also experienced by student-athletes including depression or anxiety (Kroshus, 2016), stress due to injury (Putukian, 2016), and emotional disorders (Stirling & Kerr, 2013). However, it is unfortunate that many student-athletes fail to get the mental

health assistance they need due to factors such as lack of knowledge and mental health stigma (Raalte et al., 2015). In addition, student-athletes also have difficulty getting counseling services regarding their mental health (López & Levy, 2013). Mental problems experienced by student athletes in Bengkulu City directly affect performance in training and competition. Based on these problems, it is necessary to carry out direct investigations, so that actions can be taken to overcome the mental problems of student athletes in the city of Bengkulu.

To be successful academically and excel in sports that are occupied by student-athletes, good mental toughness is needed (Lin et al., 2017). Mental toughness is a person's ability to cope with the demands of training and competition, increase determination, focus, and self-confidence, and maintain control under pressure (Bulent et al., 2017). Mental toughness plays an important role in helping athletes achieve success and achieve optimal performance (Liew et al., 2019). Sports practitioners such as coaches and athletes agree that mental toughness is very critical in achieving success at the highest level in sport (Weinberg et al., 2018). Research results show that adolescent athletes who have optimal mental toughness can withstand stress, and have lower symptoms of depression (Gerber et al., 2013). It was further revealed that basically an athlete and a non-athlete have different levels of mental toughness (Guillén & Laborde, 2014).

Previous research has studied the mental toughness of athletes. Research conducted by Ardiansyah and Dimiyati (2021) examines the mental toughness of athletes at the National Sports Week (PON) in Yogyakarta. Relevant research has been conducted by Schaefer et al. (2016) which examined the mental toughness of 173 golf athletes. The mental toughness of the athletes studied Ahsan and Mohammad (2017) revealed that mental toughness is a determining factor that affects the performance of table tennis athletes. Subsequent research was conducted by Samsudin et al. (2021) regarding the mental toughness of student athletes. Of the three studies have the same variables used. However, previous studies only discussed the mental toughness of athletes in one sport. The difference with this new research is that it involves male and female student athletes who have national achievements in swimming, pencak silat, football, futsal, and karate.

Mental toughness has a big contribution to the success of athletes. Based on the results of interviews conducted by researchers with coaches in Bengkulu, it was stated that there were problems faced by student athletes when competing including lack of confidence when competing with athletes who had higher levels, lack of athlete skills in controlling pain during training and competition. Although many have believed that mental toughness is a psychological aspect that plays an important role in success, research in this field has not been widely studied (Cowden, 2017). However, it is unfortunate that studies on student-athlete mental toughness have not been widely carried out, especially in Bengkulu City.

The purpose of this study is to examine the mental toughness of student-athletes in Bengkulu City. The novelty offered by the author is to comprehensively examine the psychological state of athletes, especially the mental toughness of student-athletes in terms of individual and team sports, and to examine differences in student-athlete mental toughness in terms of gender. Furthermore, the novelty offered is using a quantitative descriptive method so as to be able to produce valid and comprehensive data because it uses the Sports Mental Toughness Questionnaire instrument which consists of six aspects, and involves student athletes who have national achievements from various sports as research samples. Through the results found in this study, it is hoped that the updated information can be utilized by coaches so that it can be the basis for developing the mental toughness of student-athletes in Bengkulu City.

METHOD

The method used in this research is causal-comparative design, which is research that seeks to find out the differences in one or more variables in 2 different respondents or at 2 different times (Fraenkel et al., 2012). The research was carried out from 1-20 December 2021 in Bengkulu City. The population of this study consisted of 5 sports, namely pencak silat, karate, futsal, football, and swimming. Determination of the number of samples using purposive random sampling, where the determination of the sample is based on certain criteria (Etikan, 2016). The criteria for taking the sample are having won a medal at a national level competition and being between 12-17 years old. By setting these characteristics, 34 student-athletes were obtained consisting of 20 male athletes and 14 female athletes. Data collection uses the Mental Toughness in

Sport Questionnaire (MTSQ-32) instrument which was adopted from (Foelber & Foelber, 2014). This instrument consists of 32 questions covering aspects of 1) self-confidence, 2) controlling pressure, anxiety, and emotions, 3) focus, 4) ability to face difficulties and failures, 5) dealing with pain, 6) finding balance and maintaining perspective. The validity of this instrument is 0.4-0.7 while the reliability is 0.73. The procedures in this study include: 1) Translating the language of the instrument, namely English into Indonesian. 2) Validate the questionnaire to the experts. 3) Conducting instrument trials. 4) Research data collection, 5) Analyze research data by creating categories to determine the level of the mental toughness of athletes using the standard deviation and ideal mean with the formula of (Wagiran, 2015). Categorization of Instruments consists of 5 categories of the Linkert scale ranging from very low to very high; 6) Perform data analysis using one-way ANOVA and t-test assisted by SPSS to see differences in mental toughness of individual and team sports athletes, as well as differences in mental toughness of male and female athletes.

Table 1. Instrument Categorization

No.	Interval	Category
1	> (Mi+1.8SD) - (Mi+3SD)	Very high
2	> (Mi+0.6) to (Mi+1.8SD)	High
3	> (Mi-0.6SD) to (Mi +0.6SD)	Moderate
4	> (Mi-1.8SD) to (Mi-0.6SD)	Low
5	(Mi-3SD) to (Mi-1.8SD)	Very low

RESULTS AND DISCUSSION

Look at Table 2 to see the results of research on the mental toughness of student-athletes in Bengkulu City.

Table 2. The Mental Toughness of Bengkulu City Student-Athletes

No.	Sports	Mean	Standard Deviation	Category
1	Swimming	133	8.98	Very high
2	Pencak silat	132	18.09	High
3	Football	134	15.25	Very high
4	Futsal	130	9.5	High
5	Karate	135	13.6	Very high

Based on Table 2 it was found that very high criteria were obtained for the mental toughness of student-athletes in swimming, football, and karate. The high category was obtained from the mental toughness of student-athletes in the sports of pencak silat and futsal.

Table 3. Mental Toughness of Student-Athletes in Terms of Gender

No.	Gender	Mean	Standard Deviation	Category
1	Male	135.95	14.99	Very high
2	Female	131.14	13.50	High

Through Table 3 it can be seen that the mental toughness of male athletes has a very high category, and the mental toughness of female athletes has a high category. To find out the average value of each aspect can be seen in Figure 1.

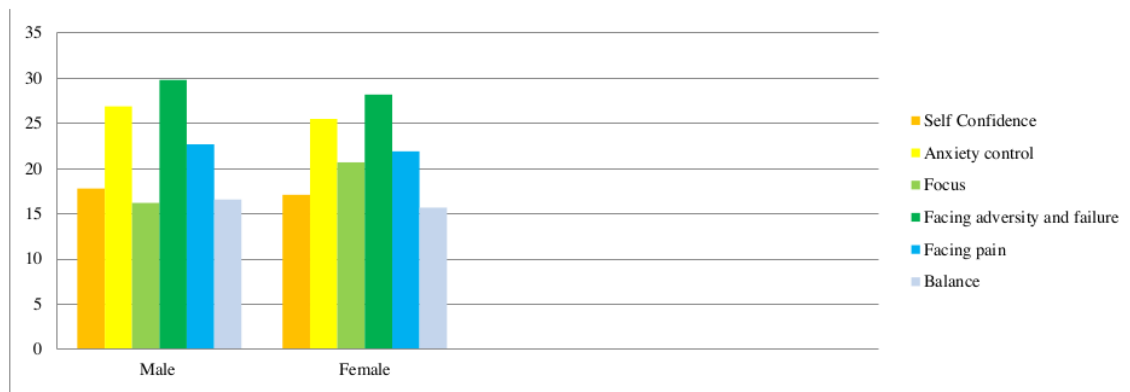


Figure 1. Mental Toughness of Male and Female Athletes in Terms of Each Aspect

From Figure 1, it can be concluded that the mental toughness of male athletes, in general, tends to have scores tend to are higher than compared of female athletes. In addition, SPSS data analysis was also carried out, namely the t-test to determine whether or not there was an inequality between the mental toughness of male and female athletes.

Table 4. Normality Test Results for Male and Female Athletes

	Shapiro-Wilk		Description
	df	Sig	
Male	20	.454	Normal
Female	14	.150	Normal

Test results obtained the value of sig. male athletes are .454 and the sig value of female athletes is .150 so it can be concluded that the data for male and female athletes are normal.

Table 5. Results of Homogeneity Test For Male and Female Athletes

Levene statistic	df1	df2	Sig.	Description
.010	1	32	.920	Homogenous

Meanwhile, the data homogeneity value obtained a sig value of .920 so that the data was homogeneous. Then continued with t-test analysis.

Table 6. Results of Hypothesis Testing Analysis

Leven's Test for Equality of variances		Description
F	Sig.	
.010	.920	There is no significant difference

Based on the results of the analysis obtained from the t-test, the sig value is obtained. $0.920 > 0.05$, so it was concluded that there was no significant difference between the mental toughness of student-athletes in terms of gender.

Table 7. The Mental Toughness of Student-Athletes Observed in Individual and Team Sports

Sports	Mean	Standard deviation	Category
Individual	133.56	15.11	Very high
Team	133.55	13.39	Very high

Through Table 7 it can be seen that the mental toughness of individual athletes has a very high category, and the mental toughness of team athletes has a very high category while each aspect of the mental toughness of individual and team athletes can be seen in Figure 2.

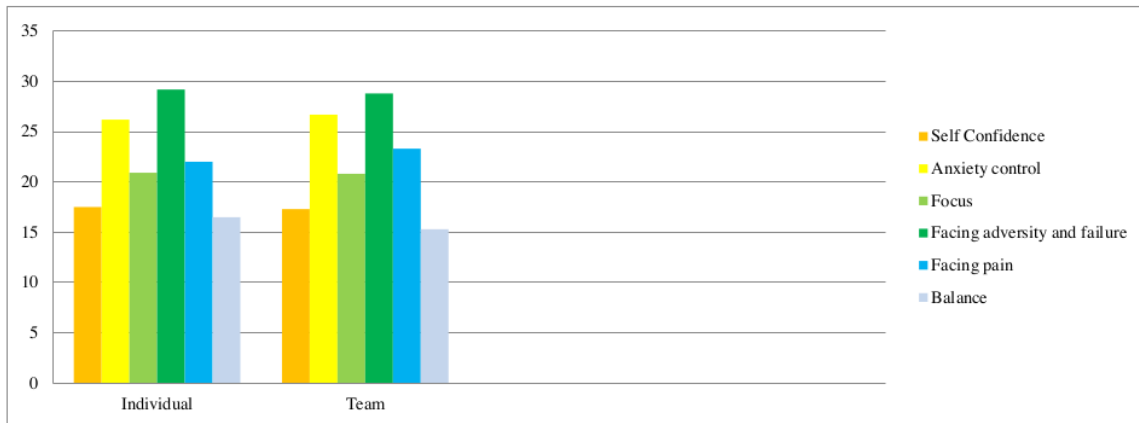


Figure 2. Mental Toughness of Individual and Team Athletes in Terms of Each Aspect

Table 8. Normality Test Results for Individual and Team Athletes

	Shapiro-Wilk		Description
	df	Sig	
Individual	25	.289	Normal
Team	9	.683	Normal

Test results obtained the value of sig. individual athletes are .289 and the sig value of team athletes is .683 so it can be concluded that the data for individual and team athletes are normal.

Table 9. Results of Homogeneity Test Individual and Team Athletes

Levene statistic	df1	df2	Sig.	Description
.291	1	32	.594	Homogenous

Meanwhile, the data homogeneity value obtained a sig value of .594 so that the data was homogeneous. Then continued with t-test analysis.

Table 10. Results of Hypothesis Testing Analysis

Leven's Test for Equality of variances		Description
F	Sig.	
.291	.594	There is no significant difference

Based on the results of the analysis obtained from the t-test, the sig value is obtained $0.594 > 0.05$, so it was concluded that there was no significant difference between the mental toughness of student-athletes in terms of sports.

The objectives to be achieved in this study are: 1) Knowing the level of the mental toughness of student-athletes in Bengkulu City, 2) Knowing the differences in the mental toughness of student-athletes in terms of gender, 3) Knowing differences in the level of the mental toughness of student-athletes in terms of individual and team sports. It has been agreed by various previous researchers that mental toughness is a mental aspect that supports and is always related to the achievements, performance, and achievements of athletes (Crust & Swann, 2011b). Mental toughness is a skill possessed by athletes to be able to master themselves in various obstacles in sports. In addition, determination, high self-confidence, and being ability to control oneself in various situations and is the most important factor in supporting the optimal performance of an athlete (Gucciardi, 2017). Coaching to become an outstanding athlete is a process that every athlete must go through to gain mental toughness by improving every aspect that supports achieving peak performance (Crust & Clough, 2011a). Athletes mental toughness can be formed not only through sports competitions but can be

formed through education in schools. Where in the educational process at school an athlete who is still a student will be guided to develop all his potential physically, mentally, emotionally, and socially. Athletes and coaches even use psychologists consistently to optimize mental toughness, because it is an important psychological characteristic and is associated with outcomes and success in sporting achievements (Liew et al., 2019). The high mental toughness of student-athletes in Bengkulu City cannot be separated from physical exercise that is carried out continuously so that excellent physique it can have an impact on the mental toughness of athletes. Research results have revealed that athletes with optimal physical conditions have a positive impact on athletes mental toughness (Craike et al., 2014).

In Figure 1, it is known that male athletes tend to have high scores in the aspect of self-confidence when compared to female athletes. It was further explained that athletes with a good level of self-confidence were followed by good mental toughness. Where mental toughness has a significant correlation with the achievements of athletes (Newland et al., 2013). When the game determines optimal performance, mental toughness is the key to victory. Therefore, increasing the mental toughness of athletes through increasing confidence in the athlete's ability to overcome challenges and achieve emotional control, besides being able to increase cognitive flexibility and difficulty tolerance, thereby reducing avoidance behavior driven by emotions (Garland, 2014). Mental toughness is a psychological aspect that can encourage athletes to perform and remain consistent with goals to achieve optimal performance, and be able to manage stressors in the training process that varies in terms of duration, frequency, and intensity of exercise (Stamatis et al., 2020).

Based on Figure 1, it is known that female student athletes in Bengkulu City have lower scores when viewed from the ability to control anxiety. The mental toughness of athletes in terms of anxiety control is known that male athletes tend to be better than female athletes, this is because female athletes tend to have higher levels of anxiety (Patel et al., 2010). The results of another study revealed that male athletes tend to have lower levels of anxiety than female athletes (Kristjánsdóttira, et al., 2018). Some of the symptoms of anxiety experienced by female athletes include difficulty sleeping and depression (Schaal et al., 2011). Meanwhile, in the focus aspect, it is known that female athletes tend to score better than male athletes. As revealed that female athletes have anxiety levels not as low as male athletes, but in the domain of emotional intelligence, female athletes show higher levels of understanding and perception than male athletes (Fernández, et al., 2019). Based on this, this study is in line with previous research which showed that there were differences between male athletes and female athletes in controlling anxiety in sports. Therefore, it is recommended for female athletes to be able to do exercises that can minimize the occurrence of anxiety.

In dealing with difficulties and failures, male athletes are reported to have tended to be better than female athletes. The results revealed that male athletes experienced increased toughness which is thought to be able to reduce pain or improve verbal, emotional, and self-control strategies, further explaining that psychological stress in sports in the presence of mental toughness can help encourage adaptive responses to pressure, situation, positive or negative events (Ajilchi, et al., 2021). Mental toughness is a compatible process that requires full attention and if used in an effective balance can create an optimal mindset to optimize sports performance, especially in female athletes (Wilson, 2019).

Athletes who have optimal mental toughness are known to create balanced relationships with coaches, other athletes, teachers, and the environment. Various research results show that the relationship between coaches and athletes can build the mental toughness of athletes (Philippe et al., 2011). The results of previous studies indicate that athletes perceptions of the effectiveness of coaches motivate positively and have strong connections and self-confidence in sports, perceptions of effectiveness positively predict their sports competence, and perceptions of effectiveness positively build their character and moral identity. Thus, athletes perceptions of their coaches may have important implications for athletes sports experiences in a team and individual sports even in different cultures (Kassim & Boardley, 2016). The results of other studies conclude that the combination of professional psychological support for coaches and optimal competitive athlete experience can improve better performance in achieving optimal performance (Silva, et al, 2021). Coaches pay special attention at critical times to their athletes when participating in sports competitions, athletes need psychological support in the face of significant stress in competitive sports (Burievich, 2022). Based on the attitude of adolescent athletes who have fluctuating and energetic emotional levels, but in terms of self-control

are not perfect, so they will feel afraid of failure, and lack self-confidence. Adolescence is a period of transition from childhood to early adulthood which sometimes causes overflowing emotions which sometimes lead to negative things, especially in taking attitudes and behaving.

Based on this, training is needed to improve the mental toughness of athletes. Mental toughness for anyone who wants to succeed in achieving their goals, especially an athlete who will face competition is dedicated to developing mental toughness (Stamatis et al., 2020). This is in line with the results of previous research which revealed that adolescent athletes are athletes who are still lacking in terms of experience, and skills, and are less able to manage anxiety in the competition so that they can trigger negative emotions and high stressors so that mental reactions tend to fluctuate. Based on this, to minimize the decline in the psychological strength of athletes, athletes must apply mental training regularly. This is in line with what was stated that psychological processes including the mental toughness of athletes before, during, and after competition directly affect competition performance (Bedir, et al., 2017).

Student-athletes from individual and team sports in Bengkulu City had different mean scores in each aspect studied in this study but did not have a significant difference. Athletes in team and individual sports have different associations with the diagnosis of anxiety and depression. In addition, team sports athletes also engage in perfectionist behavior in sports, but not as high as individual sports athletes (Nixdorf, et al., 2013). The proportion of individual sports athletes experiencing anxiety or depression is higher than that of team sports athletes, namely 13% vs. 7% (Pluhar, et al., 2019). It was further explained that individual sports athletes were better at goal-oriented performance than team sports athletes, namely 30% vs. 21%. The results of another study revealed that there were differences between individual sports athletes and team sports athletes in terms of psychological skills and motivation for athletic success (Kajbafnezhad et al., 2011). Based on this, it can be seen that individual sports athletes experience higher anxiety because they have a heavier burden on their shoulders than team sports athletes. Similarly, it was expressed that individual sports help athletes develop other important psychological skills. When athletes train alone, they can improve their ability to concentrate, increase mental strength, and encourage responsibility and independence. Athletes in individual sports have a higher level of preparation because their success depends entirely on the skills and training of the athletes themselves (Kajbafnezhad et al., 2011). Based on the results of this study, it is necessary to conduct further research that aims to reduce anxiety levels, increase self-confidence, and overcome psychological problems in training and competition.

CONCLUSION

Based on the results of the study, it can be seen that athletes from swimming, football, and futsal have mental toughness in the very high category, while athletes from pencak silat and futsal sports have a high category. Male athletes were found to have a higher average score than the female athletes mean score but there was no significant difference. Likewise, athletes from individual sports have a higher mean score than athletes from team sports but there is no significant difference. The conclusion of this study is the level of the mental toughness of student-athletes in Bengkulu City is in the high category and there is no difference in terms of gender and sports. However, this study has not yet discussed the strategies and mental training programs implemented by athletes in each sport. The results of this study can be information for athletes and coaches, especially in the psychological field, namely policies that lead to the mental toughness of student athletes in Bengkulu City. Therefore, it is recommended that researchers who have an interest in continuing this research are advised to study further the strategies and programs of athletes' mental training.

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CONFLICT OF INTEREST

The author declared that there is no conflict of interest in writing this article.

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