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## Competitive Anxiety: A Role Between Mental Toughness and Self-Confidence in Karate Athletes?

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### ABSTRACT

This research study aims to determine the relationship between mental toughness and self-confidence with competitive anxiety in karate athletes. The subjects in this study were 227 karate athletes from NTT who would take part in the competitive. Purposive sampling was used as a sampling technique and this study used Spearman-Brown analysis. Data collection in this study was obtained from the results of distributing scales via google form and directly between subjects using a Likert scale. The results of the study on the second hypothesis show that there is a significant negative relationship between mental toughness and competitive anxiety. Assuming that the higher the mental toughness, the lower the competitive anxiety in karate athletes. The third hypothesis also shows that there is a significant negative relationship between self-confidence and competitive anxiety. Assuming that the higher the self-confidence, the lower the competitive anxiety in karate athletes

## INTRODUCTION

Karate is no longer just a martial art, but has developed into a professional sport that features many championship competitiveness at local, regional, national and international levels. Athletes not only master the right techniques and strategies, but also high mental toughness. Mental toughness helps athletes maintain and control their performance when anxiety arises during competitive (Cowden, 2017). One of the important psychological factors related to competitive is competitive anxiety. Competitive anxiety is an emotional response that occurs when an athlete feels threatened during a competitive. When an athlete thinks about the outcome of a competitive, the athlete feels threatened and has a feeling that the upcoming competitive will be difficult. Competitive anxiety occurs when an individual faces difficult obstacles and makes the individual think about the outcome that will be obtained, such as failure to achieve goals can cause unstable thinking (Martens, Vealey, & Burton, 1990). Competitive anxiety is one of the factors that affect an athlete's performance in a match. In addition, competitive anxiety can interfere with the mind so that it interferes with performance in the match to show the best. The level of competitive anxiety experienced by athletes will affect the athlete himself. ZOF (Zone of Optimal Functioning) explains that anxiety experienced by athletes can bring improvements to performance and have the ability to overcome challenges for their matches (Mellaleu, Hanton, Fletcher 2009). Based on the results of a survey conducted by researchers using the theory of Smith, et al. (2006) looking at the level of anxiety in competing in karate athletes in NTT with 71 respondents who had filled out a questionnaire related to anxiety in competing distributed by researchers with an age range of 15-27 years showed several statistical data including, thinking about defeat when getting an opponent who already has a lot of experience in competing by 73.1%; feeling worried before competing by 76.9%; feeling unsure about winning the match they participated in by 59%; thinking about getting injured by 38.5%; having difficulty focusing on the

coach's instructions by 50%; thinking it would be in vain if you don't win by 60.3%; always thinking about failure before competing by 47.4%; having trouble sleeping before competing by 62.8%. It can be concluded that based on the results of a survey of 71 respondents, they stated that they experienced cognitive anxiety before starting the match. The description of anxiety that occurs in karate athletes such as in the somatic aspect, namely a fast heartbeat, a tense body and excessive sweating. Similarly, Nurdiansyah and Jannah (2021) explained that the anxiety felt by athletes when facing a match is a state of distress experienced by an athlete when negative emotions increase in line with the athlete's assessment during the match situation. Based on the data obtained by researchers from the NTT Provincial Youth and Sports Office, it was stated that the Special School for Sports Talent and the Sports Student Training Center as of 2024 experienced a decline, which initially in 2023 at the championship in Malang, karate athletes from the Special School for Sports Talent with 15 athletes won 22 gold medals, 13 silver medals, and 9 bronze medals. Continued at the Sports Student Training Center consisting of 15 karate athletes at the championship in North Sulawesi won 9 gold medals. In 2024 at the Malang open championship, karate athletes from the Special School for Sports Talent with 20 athletes won 16 gold medals, 2 silver medals, and 3 bronze medals. It can be concluded that the decline in achievement experienced by karate athletes in East Nusa Tenggara is an important aspect for research. Competitive in matches is said to be one of the sources of threat because the athlete's image is associated with the performance displayed, in addition to being associated with uncertain match results and exposure to public opinion and assessments from various other parties (Rocha & Osório, 2018). Another opinion explains that the negative emotions that arise are a response to competitive pressure from a competitive or match situation, so it is called competitive anxiety (Mellalieu, et al., 2009). Competitive anxiety is an important topic to study in the realm of sports psychology (Ong & Chua, 2021). The impact of

competitive anxiety that affects athlete performance is divided into physical and psychological impacts. The physical impacts that appear are increased heart rate, dry mouth, sweat on the palms of the hands, stomach feels nauseous, neck and shoulder muscles become stiff (Ciptaningtyas, 2012). While the psychological impacts that appear are in the form of the influence of anxiety on the mental that is seen in athletes such as becoming restless, athletes have difficulty concentrating, and there is doubt in making decisions during the match (Ciptaningtyas, 2012). Athletes can reduce competitive anxiety during competitive by increasing mental toughness. Therefore, athletes must have good mental toughness to avoid psychological disorders such as anxiety that can have a negative impact on athletes' competitive performance. To achieve optimal mental quality, athletes must improve mental toughness. Gucciardi, et al. (2009) explained that mental toughness is a combination of emotions, behaviors, attitudes, and values that enable athletes to overcome various obstacles, pressures, and challenges they face. Raynadi, et al. (2017) concluded that mental toughness is a key factor in reducing competitive anxiety because if athletes realize that their mental toughness plays a key role in their performance in a match, then athletes will be able to overcome various obstacles, pressures, and difficulties. Algani, et al (2018) also stated that high mental toughness of an athlete will indicate low competitive anxiety in karate athletes, and vice versa. One of the factors of mental toughness that athletes must have is self-confidence to help reduce anxiety in athletes. Competitive in a karate match is currently considered to have a fairly tight level of competitive. Self-confidence is the main factor causing the anxiety they experience, Alwin, et al. (2020) Ahead of the championship, a problem that often occurs is that athletes have problems with their reduced level of self-confidence. This self-confidence can arise due to several influencing factors. The factor that influences karate athletes the most is when they already know how much ability their opponents have. Another study by Nisa & Jannah (2021) stated that athletes who have low self-confidence will easily become

discouraged when required to have higher achievements. In addition, athletes will also have difficulty in showing their best performance. With self-confidence, athletes can feel safe, optimistic, and not easily intimidated by opponents.

## **METHODS**

### **Population and Sample**

The research method used in this study is a quantitative correlational approach. Competitive anxiety is the dependent variable, mental toughness and self-confidence are independent variables. The entire population in this study were karate athletes from NTT, the total number of which was calculated during the June 2024 match, there were 650 karate athletes who participated in the match.

Samples were taken using the Issach and Michelle table to determine the number. The number of research samples was 227 karate athlete subjects who would participate in the match in the near future during the research, determining the sample size at a level of 5%. This study used a *purposive sampling technique*.

### **Competitive Anxiety**

Competitive anxiety is a state of distress experienced by athletes, namely negative emotions that increase in line with the situation in a match. The aspects used by Smith et al. (2006) include several aspects of anxiety in facing a match, namely *somatic, worry, and concentration disruption*. The higher the score on this scale, the higher the anxiety of the athlete, conversely the lower the score obtained, the lower the anxiety of the athlete.

Based on the results of the item discrimination test using the corrected item correlation index total of at least 0.30 (Azwar, 2013), the total items with one round were 26 items, the item discrimination coefficient moved from 0.328 to 0.847 and no items were dropped so that all items from the competitive anxiety scale were said to be valid. The results of the competitive anxiety scale reliability test obtained a *Cronbach's alpha value* of 0.937 with 26 valid items and no items dropped. This means that the competitive anxiety scale is proven to be reliable.

### **Mental Toughness**

Mental toughness is an attitude of self-assessment in positive emotional reactions, especially in athletes, to overcome obstacles, difficulties and pressures to maintain concentration and have high motivation to achieve the goal of surviving during a match. Gucciardi (2009) states that there are four aspects of mental toughness, namely developing through challenges, sports awareness, a resilient attitude and wanting success.

Based on the results of the item discrimination test using the corrected item correlation index total of at least 0.30 (Azwar, 2013), the total items with one round were 24 items, the item discrimination coefficient moved from 0.399 to 0.817 and no items were dropped so that all items from the mental toughness scale were said to be valid. The results of the reliability test on the mental toughness scale obtained a Cronbach's alpha value of 0.951 with 24 valid items and no items dropped. This means that the mental toughness scale is proven to be reliable.

### **Confidence**

Self-confidence is a belief in oneself of one's abilities that are obtained from life experiences, and has an attitude and full trust in one's ability to perform an action without always feeling anxious, feeling free to do things according to one's wishes and being responsible for decisions and actions that have been taken. The scale in this study used the Sport Confidence Scale compiled by Vealey (1986) which was then developed by researchers with three aspects, namely physical training and skills, cognitive efficiency and resilience.

Based on the results of the item discrimination test using the corrected item correlation index total of at least 0.30 (Azwar, 2013), the total items with one round were 18 items, the item discrimination coefficient moved from 0.477 to 0.789 and no items were dropped so that all items from the self-confidence scale were said to be valid. The results of the self-confidence scale reliability test obtained a Cronbach's alpha value of 0.935 with 18 valid items and no items dropped. This means that the self-confidence scale is proven to be reliable.

### **Assumption Test**

#### **Normality Test**

The normality test was conducted using *Kolmogorov-Smirnov* with the provision that the number of respondents is 100 or more. The significance value of  $p\text{-value} > 0.05$  indicates that the data is normal, while the significance value of  $p\text{-value} < 0.05$  indicates that the data is not normal. In this study, the results of the normality test calculation were obtained with a significance value that had been tested using *SPSS version 27* of 0.200, which indicates that the research data is normally distributed with  $p > 0.05$ .

#### **Linearity Test**

The linearity test between the mental toughness variable and the match anxiety variable obtained F deviation from linearity 2.125 with a significance of 0.001, which states that there is no linear relationship between the mental toughness variable and the match anxiety variable. The results of the linearity test between the self-confidence variable and the match anxiety variable obtained F deviation from linearity 2.125 with a significance of 0.001, which states that there is no linear relationship between the self-confidence variable and the match anxiety variable.

#### **Multicollinearity Test**

The results of the multicollinearity test of mental toughness and match anxiety showed a tolerance value of  $0.423 > 0.10$  and a VIF of  $2.366 < 10.00$ . This means that there is no multicollinearity or intercorrelation between mental toughness and match anxiety. The multicollinearity test of self-confidence and match anxiety showed a tolerance value of  $0.423 > 0.10$  and a VIF of  $2.366 < 10.00$ , which means that there is no multicollinearity or intercorrelation between self-confidence and match anxiety.

#### **Heteroscedasticity Test**

The results of the heteroscedasticity test on the variables of mental toughness and match anxiety obtained a significance value of  $0.875 > 0.05$ , on the variables of self-confidence and match anxiety obtained a significance value of  $0.473 > 0.05$ . This

means that there is no heteroscedasticity in the three variables.

### Data Analysis Techniques

Data analysis in this study is using multiple linear regression analysis. However, after conducting an assumption test or prerequisite test, this study uses *Non-parametric Correlation*, namely Spearman Brown because the results of the linearity test show results that are less than the linearity number requirements so that they do not meet the requirements for multiple linear regression analysis. Data calculations use the IBM (*Statistical Packages for Social Science*) Version 27.0 for Windows program.

## RESULTS AND DISCUSSION

### Research Result

This study is a quantitative correlational study with an analysis technique using the Spearman Brown analysis technique. The first hypothesis in

this study is that there is a relationship between mental toughness and self-confidence with anxiety in competing in karate athletes cannot be proven because the analysis used is non-parametric.

The second hypothesis in this study is the relationship between mental toughness and competitive anxiety in karate athletes. The test results obtained with a significance value of 0.001 <0.05 with a correlation coefficient value of -0.527, meaning that there is a significant relationship between the level of relationship between these two variables. The value obtained is negative so that in the first hypothesis it is stated that if mental toughness is high, competitive anxiety will decrease, and vice versa if mental toughness decreases, competitive anxiety will be high. These results illustrate that mental toughness is negatively correlated with competitive anxiety in karate athletes. Based on these results, the research hypothesis is declared accepted.

Table 1. Results of the Second Hypothesis Test

Correlation Coefficient	P	Information
-0.527	0.001	The correlation is very significant (p<0.01); Hypothesis is accepted.

The third hypothesis in this study is the relationship between self-confidence and anxiety in competing in karate athletes. The test results obtained that the significance value of 0.001 <0.05 with a correlation coefficient value of -0.606, meaning that there is a significant relationship between the level of relationship between these two

variables. The value obtained is negative so that in the first hypothesis it is stated that if self-confidence increases, anxiety in competing will decrease, and vice versa if self-confidence decreases, anxiety in competing will increase. These results illustrate that self-confidence is negatively correlated with anxiety in competing in karate athletes. Based on these results, the research hypothesis is declared accepted.

Table 2. Results of the Third Hypothesis Test

Correlation Coefficient	P	Information
-0.606	0.001	The correlation is very significant (p<0.01); Hypothesis is accepted.

## DISCUSSION

The second hypothesis that has been tested in this study is whether there is a relationship between mental toughness and competitive anxiety in karate athletes. The test results obtained that the significance value is 0.001 <0.05, which means that

this hypothesis is accepted because it has a significant relationship which means there is a level of relationship between these two variables. The value obtained is negative so that if mental toughness increases, competitive anxiety will decrease, and vice versa, if mental toughness decreases, competitive anxiety will increase.

In line with Ginting's research, DSF (2022) stated that there is a negative relationship between mental toughness and competitive anxiety, which means that the higher the mental toughness, the lower the competitive anxiety. Likewise, the lower the mental toughness, the higher the competitive anxiety. Similarly, the research of Darisman et al. (2020) stated that the hypothesis was accepted, namely that there is a negative relationship between mental toughness and competitive anxiety. In accordance with the hypothesis, competitive anxiety is a negative reaction that is felt before and during the competitive, such as anxiety, worry, fear of defeat, feelings of restlessness, and tension in the competitive. In contrast to mental toughness, which gives rise to positive reactions to overcome difficulties, challenges, and pressure on a person, especially athletes, in a competitive (Smith, et al., 2006). This is reinforced by one of the explanations of aspects of mental toughness by developing through challenges, namely having competitive attributes that tend to be positive in facing challenges or pressure so that it is said that they do not experience anxiety when competing (Darisman & Muhyi, 2020).

Research conducted on karate athletes in NTT shows that athletes in match situations still experience many anxiety in matches, seen from the categorization data there are still 106 subjects with a percentage of 46.7% in the moderate category followed by 55 subjects from 227 research subjects with a percentage of 24.2% in the high category, while in the mental toughness variable seen from the categorization results there are 93 subjects with a percentage of 41% and followed by 54 subjects in the high category with a percentage of 23.8%. Based on these results, it states that karate athletes in match situations are still on average experiencing anxiety in matches, the subjects are sufficient to control themselves when feeling restless, afraid and anxious. Many things cause subjects to have high and low anxiety in matches. As in the explanation of the categorization of mental toughness based on aspects from Gucciardi (2009) which shows that it is in the moderate category which means that the subject is

capable enough to have attitudes, behaviors and emotions that are sufficient so that they can survive and can go through various situations in the match so that they can maintain concentration during the match.

The third hypothesis in this study is whether there is a relationship between self-confidence and anxiety in karate athletes. The test results obtained that the significance value is accepted, meaning that this hypothesis is accepted because it has a significant relationship which means it has a level of relationship between these two variables. The value obtained is negative so that if the higher the self-confidence, the anxiety experienced in competing will decrease, and vice versa, if self-confidence decreases, anxiety in competing will increase.

The proof of this hypothesis is the same as the research results that have been tested by Triana, et al., (2020) which stated that there is a significant negative relationship between self-confidence and competitive anxiety experienced by an athlete.

Another study conducted by Putri & Handayani (2020) also showed that there is a significant negative relationship between self-confidence and competitive anxiety experienced by athletes. In addition, another study that is in line with the study conducted by Tomé-Lourido et al., (2019) showed that self-confidence has a negative relationship with competitive anxiety. In his study, self-confidence and competitive anxiety in athletes were greatly influenced by the athlete's competitive experience. Confidence plays a major role in influencing athlete performance during the competitive.

Nisa and Jannah (2021) stated that lack of self-confidence is one of the triggers for athletes making it difficult to control themselves properly. The result is that athletes find it difficult to show their best performance when competing and are less than expected to win the competitive. Another study by Warjito and Pudjijuniarto (2022) explains that self-confidence and anxiety in competing have a close relationship with an athlete's achievement. In the discussion of the world of sports, one of the factors

that influences self-confidence is the athlete's ability in a field that is well mastered.

Triananda, et al., (2021) also stated that self-confidence is one way for athletes to achieve brilliant achievements in the field of sport they master. High self-confidence is needed in individual sports to achieve success. Likewise, an athlete who has achieved success has a high level of self-confidence.

According to Triana, et al., (2020) explained that an athlete who has low self-confidence will experience tension when facing a match. The tension experienced by an athlete is part of the anxiety of competing felt by an athlete. The anxiety of competing experienced by an athlete is caused by a feeling of fear of being booed by the audience during the match (Hindari and Wismanadi, 2022). In addition, this is also due to the public giving negative assessments to athletes when they lose a match.

Athletes who have minimal experience will feel anxious when facing senior athletes who have had a lot of experience competing, this is a possibility for an athlete to experience excessive competitive anxiety. Karate athletes in this study are still teenagers, so the athletes in this study still have less competitive experience, this makes athletes still experience excessive anxiety when competing.

Other factors of competitive anxiety experienced by athletes also occur such as fear of imagining that the athlete will fail in the match, fear of people's views of him and his match, and lack of self-confidence. Competitive anxiety in athletes is influenced by external and internal factors. External factors according to (Ardini and Jannah, 2017) are factors that come from outside the athlete such as the match situation, match experience, skills possessed, and the sport being pursued. In addition, internal factors are factors that come from within an athlete such as self-confidence, innate anxiety, and *positive negative affect*.

Andi and Aulia (2019) explained that support from coaches also has a big influence on the anxiety experienced by athletes. In addition. Athletes who receive positive support from coaches will have feelings of being loved and cared for, making an athlete feel safe and comfortable. This makes

athletes have self-confidence and can show their best performance.

## CONCLUSION

Karate athletes with high mental toughness will show low competitive anxiety for karate athletes, and vice versa, low mental toughness will show high competitive anxiety for karate athletes. One of the factors of mental toughness that athletes must have is self-confidence to help reduce anxiety in athletes. Competitive in a karate match is currently considered to have a fairly tight level of competitive. Self-confidence is the main factor in the anxiety they experience before the championship, a problem that often occurs is that athletes have problems with their reduced level of self-confidence. This self-confidence can arise due to several influencing factors. The factor that most influences karate athletes is when they already know how much ability their opponents have.

Competitive anxiety is defined as a state of distress felt by an athlete, in which high negative emotions are in line with the situation in a match. The purpose of this study was to determine the relationship between mental toughness and self-confidence with competitive anxiety in karate athletes. The subjects of the study were 227 karate athletes in East Nusa Tenggara. The results of this study showed that the first hypothesis stating that there was a relationship between mental toughness and self-confidence with competitive anxiety in athletes could not be proven, the second hypothesis stating that there was a negative relationship between mental toughness and competitive anxiety in karate athletes was proven, and the third hypothesis stating that there was a negative relationship between self-confidence and competitive anxiety in karate athletes was proven.

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