



## The Relationship between Mental Toughness and Competitive Anxiety of Diving Athletes in the Training Phase

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### Abstract

There are main factors that can reduce the level of competitive anxiety in athletes, namely mental toughness, this is proven in research on other sports but has not been done in the sport of diving. This study aims to examine the significant relationship between mental toughness and competitive anxiety of diving athletes in the training phase. The method used is descriptive correlation using the Sport Mental Toughness Questionnaire (SMTQ) instrument and the Sport Competitive Anxiety Test (SCAT) questionnaire. The research sample amounted to 24 diving athletes at the West Java level, Data collection through google form in the form of questionnaires and data analysis techniques with SPSS version 26. The results of data analysis show that there is a significant negative relationship with a pearson correlation value of -0.415 with a Sig value. (2-tailed) 0.044 Based on the test results, the value of Sig. (2-tailed) <0.05 so that H0 is rejected. This study concludes that there is a significant relationship between mental toughness and competitive anxiety in the training phase.

### How to Cite

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## INTRODUCTION

Psychological anxiety is often experienced by athletes and can have a major impact on performance. Anxiety is a reaction to body tension that is regulated by the autonomic nervous system (Lailiyah & Jannah, 2022). External and internal forces can cause anxiety (Hayat, 2017). Athletes feel pressure to perform perfectly before facing a match, which can increase anxiety levels (David et al., 2024). Athletes often experience high anxiety due to experiencing pressure that makes the athlete not concentrate during training or when they want to face the match so they do not get maximum results (Khoirul & Miftakhul, 2021).

Basically, mental problems often befall diving athletes when they are about to jump from a diving board that has a height that makes the athlete's mentality depressed, several experts define mental toughness related to diving athletes. According to (Wilson et al., 2019) Athletes' mental endurance is very important to achieve the goal of victory in the match. According to (Gucciardi et al., 2015) a person's ability to achieve high levels of performance both objectively and subjectively without being affected by pressure, problems, or challenges. According to (Wu et al., 2021) The ability of athletes to cope with pressure, recover from failure, and face adversity is known as mental toughness. According to (Sholicha & W, 2020) mental toughness is considered to cause athletes to feel calm and relaxed. As a result, the skill of flowing positive energy becomes easier to develop. According to (Vaughan et al., 2018), mental toughness is an important psychological resource for health and sporting achievement.

Competitive anxiety is very detrimental to diving athletes because the goals they want to achieve will be hampered. According to (Hasanah & Refanthira, 2020) competitive anxiety is an athlete who considers the match as a big challenge and always remembers his best ability, which has an impact on his behavior in competition. Competitive Anxiety occurs when an athlete feels his self-esteem is threatened and considers the match as something dangerous, which results in defeat (Wattimena, 2017). According to (Kaplánová, 2020) that negative thoughts have long-term effects, namely lowering self-esteem and increasing the fear of failure in sports. In sports, Athletes need anxiety to increase their enthusiasm while undergoing matches in addition to providing the negative effects of competitive anxiety (Darisman et al., 2020).

In previous studies, no one examined

or discussed mental toughness on competitive anxiety in the sport of diving. Athletes who have good mental toughness tend to experience less competitive anxiety because they always think positively and concentrate during training and when facing matches (Aguss & Yuliandra, 2020). Another assumption is that athletes who have a high level of mental fortitude can reduce sports anxiety and also have good self-control when faced with pressure (Elok & Miftakhul, 2020). Diving is a water sport in which there is beauty of movement. diving athletes glide from a diving board several meters high, perform a series of acrobatic movements, and plunge gracefully into the water. Overall, the readiness to jump off the diving board must combine aspects of physical ability, mental strength, and artistic expression, which makes it an interesting and fascinating sport.

By understanding how the level of mental toughness affects competitive anxiety, this study aims to gain an understanding of how the level of mental toughness affects competitive anxiety and how coaches can provide better mental training strategies. To reduce competitive anxiety or even eliminate it, mental toughness can be trained by setting goals, talking to oneself, looking at pictures, and doing relaxation exercises (Kilic & Yildirim, 2020). The results of this study are expected to help athletes to get better performance or results during training and competition by helping them manage psychological stress more efficiently, so that they can maintain a balance between physical and mental readiness during training and when competing. Therefore, the researcher draws the formulation of the problem Is there a significant relationship between mental toughness and competitive anxiety of diving athletes in the training phase, and the purpose of the problem is to examine whether there is a significant relationship between mental toughness and competitive anxiety of diving athletes in the training phase.

## METHOD

The method used in this research is descriptive with a quantitative approach. Quantitative descriptive research is research that aims to describe, examine, explain, and draw conclusions from observable phenomena, using numbers (Listiani, 2017). Using a correlational design to find out how two or more variables in the same population, or only the same variable in two populations, is called correlational research (Purba, 2021).

Samples according to (Shukla, 2020) are part of the population, and research samples can represent the population as a whole. Population is a group of subjects in a study, in research a population is needed to conclude data. Population refers to all members of the group, as used in research (Fraenkel et al., 2012). The sampling technique in this study used a total sampling technique. According to (Sugiyono, 2014) that total sampling is a sampling technique when all members of the population are used as samples, total sampling is also called a census, where all members of the population are used as samples.

The tool used to collect data was a closed questionnaire. The questionnaire distributed was the SMTQ (Sport Mental Toughness Questionnaire), (Sheard et al., 2009) to measure athletes' mental toughness. In a study called Progress Toward Construct Validation of The Sports Mental Toughness Questionnaire (SMTQ), the researchers found that the instrument had valid content and included a collection of items needed in athletes.

**Tabel 1. SMTQ Instrument**

| Instrument (Sport Mental Toughness Questionnaire)                        |
|--------------------------------------------------------------------------|
| 1. I can regain my composure if I lose confidence for a while.           |
| 2. I worry about doing poorly in a game.                                 |
| 3. I am committed to completing the tasks I have to do.                  |
| 4. I am defeated by self-doubt.                                          |
| 5. I have an unshakable sense of confidence.                             |
| 6. I have what I need to perform well under stressful circumstances.     |
| 7. I get angry and frustrated when things don't go my way.               |
| 8. I give up in difficult situations.                                    |
| 9. I become anxious about events that I do not expect or cannot control. |
| 10. I am easily distracted and lose concentration.                       |
| 11. I have qualities that set me apart from other competitors.           |
| 12. I take responsibility for setting targets that challenge me.         |
| 13. I perceive potential threats as positive opportunities.              |
| 14. Under pressure, I can make decisions with confidence and commitment. |

This questionnaire item was adopted from research (Nissa & Soenyoto, 2021) with the title

"Relationship between Resilience and Anxiety Competing in PPLP Central Java Martial Arts Athletes" which consists of 14 questions, and athletes must choose between four answer options: not resilient to get a score of 1, less resilient to get a score of 2, resilient to get a score of 3, and very resilient to get a score of 4. The question combines elements of confidence (trust), constancy (constancy), and control. To determine an athlete's mental toughness, scores of 00.00-14.00 were categorized as not tough, 14.01-28.00 as less tough, 28.01-42.00 as tough, and 42.01-56.00 as very tough.

The tool to be used in order to obtain Competitive Anxiety data is the Sport Competitive Anxiety Test (SCAT) questionnaire which has been developed by (Martens et al., 1991). Rainer Martens tested the SCAT questionnaire in several studies, the results showed that the SCAT questionnaire could be used in trials and research.

This questionnaire item was adopted from research (Nissa & Soenyoto, 2021) with the title "Relationship between Resilience and Anxiety Competing in PPLP Central Java Martial Arts Athletes" using 15 questions with a Likert scale, which means "never", "sometimes", and "often". Better results indicate greater trait anxiety.

**Tabel 2. SCAT Instrument**

| SCAT Instrument (Sport Competitive Anxiety Test)                      |
|-----------------------------------------------------------------------|
| 1. Competing with others is socially enjoyable.                       |
| 2. Before I compete, I feel anxious.                                  |
| 3. Before I compete, I worry about not performing well.               |
| 4. I am a good sportsman when I compete.                              |
| 5. When I compete, I worry about making mistakes.                     |
| 6. Before I compete, I am calm.                                       |
| 7. Setting goals is important when competing.                         |
| 8. Before I compete, I feel sick to my stomach.                       |
| 9. Just before competing, I feel my heart beating faster than usual.  |
| 10. I like to compete in games that require a lot of physical energy. |
| 11. Before I compete, I feel relaxed or at ease.                      |
| 12. Before I compete, I am nervous.                                   |
| 13. Group sports are more exciting than individual sports.            |
| 14. I am nervous when waiting for the game to start.                  |
| 15. Before I compete, I usually feel nervous or tense.                |

Questions number 1, 4, 7, 10, and 13 were not evaluated as they were not anxiety-related. The aim was to reduce response deviation and keep athletes from feeling tense when measuring their anxiety. Furthermore, questions 2, 3, 5, 6, 8, 9, 11, 12, 14, and 15 were related to anxiety, with 3 being often, 2 being sometimes, and 1 being never. Questions number 6 and 11 are also related to anxiety. To determine how anxious an athlete is when competing, a score of less than 17 is considered low anxiety; a score between 17 and 24 is considered average anxiety; and a score of more than 24 is considered high anxiety.

## RESULTS AND DISCUSSION

**Table 3.** Statistical Description

| Variabel            | N  | Min | Max | Mean  | Std. Dev. |
|---------------------|----|-----|-----|-------|-----------|
| Mental Toughness    | 24 | 29  | 43  | 34,67 | 3,664     |
| Competitive Anxiety | 24 | 19  | 29  | 24,75 | 2,848     |

Based on **Table 3**, it can be seen that the mental toughness variable obtained an average value of 34.67, a standard deviation of 3.664, the lowest value was 29, the highest value was 43. Meanwhile, the competitive anxiety variable obtained an average value of 24.75, a standard deviation of 2.848, the lowest value was 19, the highest value was 29. Furthermore, the authors conducted a normality test, which can be seen in **Table 4**.

**Table 4.** Normality Test

| Variabel            | Statistic | Df | Sig.  |
|---------------------|-----------|----|-------|
| Mental Toughness    | 0,959     | 24 | 0,420 |
| Competitive Anxiety | 0,954     | 24 | 0,324 |

Based on **Table 4**. Obtained a significance value on Mental Toughness and Competitive Anxiety (0.420; 0.324) > 0.05, then  $H_0$  is accepted, so it can be concluded that both data are normally distributed. Furthermore, the author conducts hypothesis testing, can be seen in **Table 5**.

**Table 5.** Hypothesis Test

| Variabel         | Pearson Correlation | Score |         |
|------------------|---------------------|-------|---------|
| Mental Toughness | Pearson Correlation | 1     | -0,415* |
|                  | Sig. (2-tailed)     |       | 0,044   |
|                  | N                   | 24    | 24      |

|                     |                     |         |    |
|---------------------|---------------------|---------|----|
| Competitive Anxiety | Pearson Correlation | -0,415* | 1  |
|                     | Sig. (2-tailed)     | 0,044   |    |
|                     | N                   | 24      | 24 |

**Table 5** shows the results of hypothesis testing using pearson correlation. Based on **Table 3**, it can be seen that the pearson correlation value is -0.415 with a Sig value. (2-tailed) of 0.044. Based on the test results, the value of Sig. (2-tailed) < 0.05 so that  $H_0$  is rejected. So it can be stated that there is a significant relationship between Mental Toughness and competitive anxiety of diving athletes in the training phase.

In this study, the results show that there is a significant relationship between mental toughness and competitive anxiety of diving athletes in the training phase. In large part, the results of this study are due to athletes believing in their own abilities, having a strong mentality is more likely to achieve better performance. This is in line with previous research conducted by (Schaefer et al., 2016) and revealed that there is a significant negative relationship between mental toughness and competitive anxiety.

Mental toughness is needed in diving athletes in various activities or materials that are trained when athletes want to jump from the reject board. Experience and flight hours make athletes better able to overcome competitive anxiety (Maulidya & Jannah, 2021). There are several factors that have a direct impact on mental toughness, such as general conditions and competitive conditions (Herani, 2018). Athletes who have strong mental toughness will reduce the competitive anxiety felt by the athlete, because of good control and adjustment in an athlete (Rakha et al., 2024).

If the diving athlete does not have strong mental toughness, then he will not be able to make a jump, even if he is able to make a jump the results will not be good, and also invite injury. said that competitive anxiety can make people avoid things or tasks, so athletes who experience competitive anxiety in a competition situation will avoid tasks and perform poorly, which has an impact on their performance (Pelupessy & Dimiyati, 2019).

Mental Toughness is a very important quality for athletes to achieve peak performance. It is defined as the ability to overcome obstacles or distractions with determination and confidence, and to have self-control while under pressure. Individuals who have mental toughness will remain

confident despite failure, difficult situations, or even stressful situations (Kilic & Yildirim, 2020).

According to research conducted by (Raynadi et al., 2017) there is an opposite correlation between mental toughness of pencak silat athletes and competitive anxiety. Higher mental toughness is associated with lower competitive anxiety, and conversely, lower mental toughness is associated with higher competitive anxiety. According to (Analuie et al., 2016) athletes who have good mental toughness are unlikely to perceive unclear information or stressful situations as threats, and they may respond in an inappropriate or excessive manner.

Most people believe that mental toughness can help athletes feel calm and relaxed. As a result, positive energy skills are more easily developed because of mental toughness. For example, they can perceive adversity as a problem that does not need to be worried about and consider that pressure, competition, and mistakes in the game are challenges that can be solved (Sholicha & W, 2020).

In previous studies have conducted research at the time after or before the match, but in this study the researchers conducted during training where athletes imagine the previous experience of participating in the match what athletes feel which is very important for athletes to have strong mental toughness in order to get the expected maximum results.

Based on the research that has been conducted, the author feels that this research is very useful for the condition of diving athletes in the training phase. As the author has previously stated, that the existing literature still does not discuss mental toughness and competitive anxiety of diving athletes.

In the psychological aspect, mental toughness is included in the components that must be considered so that competitive anxiety can be minimized. Mental toughness in diving athletes is very related when experiencing competitive anxiety in the training phase or when they want to compete, this must be very concerned by the coach when diving athletes are experiencing competitive anxiety.

## CONCLUSION

The researchers concluded that there is a close relationship between mental toughness and competitive anxiety in the training phase. This relationship has an impact on training results. To reduce and eliminate psychological factors that can interfere with athletes' performances during

training and matches, future researchers are expected to have effective cooperation between athletes, coaches, and teams. With the aim of increasing athletes' enthusiasm to perform to the best of their ability.

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