

Mini Review

EXAMINATION OF MENTAL TOUGHNESS IN SPORTS

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Abstract

Mental toughness has been defined as a natural or developed psychological power that enables athletes to cope better with their mental needs than their competitors in conditions such as training and competition environments. Mental toughness has been a concept that sports researchers, trainers, athletes and sports managers have emphasized lately and it has begun to be seen as an important prerequisite for continuous sportive success. In this context, the aim of this study is to explain the concept of mental toughness and to discuss its importance in sports by examining current publications. In the study, which was prepared in the style of a systematic review, what kind of effect mental endurance has in the field of sports in recent years, the factors it affects and current studies are examined. “Mental toughness”, “Mental Toughness” and “Sport Mental Toughness” are keywords used when conducting research. According to the findings in the articles, there are studies that say that the level of mental toughness is higher in men and there are also studies that say that gender does not make a significant difference for mental toughness. When examined in terms of educational status, it was stated that the level of mental resilience increased as the education level increased. It was observed that there were no significant differences in the gender variable. Considering the age variable, the mental endurance of the athletes also increases with the increase in age. Considering the researches as experience, it is seen that experienced athletes have higher mental endurance levels than inexperienced athletes. Considering the researches as sports branches, there are also studies stating that the mental endurance levels of team athletes are higher than individual athletes. As a result, it can be said that the level of mental training plays an active role in success and continuing sports. *ASEAN Journal of Psychiatry, Vol. 24 (7) September, 2023; 1-5*

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Introduction

Sports and exercise are activities where physical and mental loads are placed on their bodies. If sports and exercise are done regularly and systematically, positive effects on human health occur. It shows the limits of the achievements of the sport. While some groups do it as a spare time warehouse, some individuals do it as a performance sport. While individuals who spend their spare time participate in life due to behaviors such as socializing and spending quality time, people with sports purposes perform them in a planned way with training. However, goals and motivation to exercise regularly are vital. One of the most important observations of watching to continue sports is mental endurance. Despite the use of sports and exercise activities as activity contents, the importance of preservatives has been supported by the work done [1]. Sports psychologist James Loehr first mentioned the concept of mental toughness required in the sports environment. Jacelon defined it as mental drive, helping people adapt to stress in the face of negative situations. Luthans defines it as the

psychological ability of an individual to collect himself in the face of negative situations and to return to his old performance. Mental endurance; it incorporates many features such as being self-confident, being able to continue under stress, not allowing external factors to disrupt one's contraction, making an effort, being able to stand by one's decision, not allowing the performance to affect it under pressure, being able to maintain motivation and being courageous. Intense work, tactical training, competitions and injuries in the sports environment can have negative effects on athletes [2]. Despite many reasons, the ability to continue is thought to increase the performance of athletes. Individuals who are in good mental condition can act calmly and comfortably in the situation they are in compared to their competitors. The condition or skill of the athletes can significantly affect the outcome of the competition. However, winning and losing are related to competitive performance. If the physical conditions of the athletes are equivalent to their competitors, the winners are usually the athletes with better mental skills. In this context, it can be said that mental resilience emerges as

an effective psychological factor for sportive success [3].

Aim

Today, the number of athletes, trainers and sports psychologists who attribute the results of the competition to the high or lack of mental endurance is increasing. There are many studies showing that mental toughness improves the performance of the athlete. In this context, the aim of this study is to explain the concept of mental toughness and to discuss its importance in sports [4].

Scope

The scope of the study consists of researches published between 2010-2022 on mental endurance and the concept of sports [5].

Literature Review

The presented study was prepared in a systematic review format. Basically, the definition of the concept of mental toughness, its importance in sports and the factors affecting it were sought. In order to reach the answers to these questions, a comprehensive research was carried out by

examining the full-text articles (in English) and Turkish published between 2010-2022 on the concept of mental toughness. “Mental toughness, “Mental Toughness” and “Sport Mental Toughness” are the keywords used when conducting research [6].

Mental endurance inventory

Sheard, Golby and van Wersch developed the mental endurance inventory in order to measure the mental toughness levels of individuals. The scale, consisting of 14 items and 3 sub-dimensions, was adapted into Turkish by Altintas. The sub-dimensions of the scale are trust, continuity and control [7].

When the studies were examined, when the age variable was examined, conflicting results were found regarding the development of mental resilience. Depending on the increase in age, the biological changes of individuals, changes in self-perceptions, social effects and emotional reactions. Along with this, it can be predicted that the level of mental endurance will also increase. However, there are also studies showing that the age variable is not associated with mental toughness (Table 1) [8].

Table 1. Mental endurance inventory.

Author	Sample	Purpose	Conclusion
Yunus Sahinler, Adnan Ersoy	A total of 248 volunteers, 71 female and 177 male athletes, participated	It was conducted to examine the mental resilience levels with different variables	No difference was observed between the genders
			Differences were also observed according to sports branches
			Differences were determined according to the variable of educational status
Arslan Kalkavan, Cetin Ozdilek, Gokhan Cakır	In 2018, 146 athletes participated in the mountain bike tournament	Examining the differences in mental toughness of mountain bikers on various variables	Significant differences were found between the confidence sub-dimension of the age and year of doing sports variable and the control sub-dimension of the gender variable
			According to the gender variable, it was found that men had a higher score in the control sub-dimension than women
Pinar Demir Murat Celebi	A total of 398 people, including 163 female and 235 male athletes, participated	It was conducted to examine the mental endurance of the athletes engaged in combat sports and to investigate the relationship between different variables	There was no significant difference in continuity and control sub-dimensions according to the gender variable. In the trust sub-dimension, a result was found in favor of men
Yunus Emre Yarayan,	44 female and 57 male athletes interested in team sports; A total of	Examining the mental endurance level of athletes who do	It was found that the level of mental endurance differed according to the type of sport

Aydiner Birsin, Yildiz Dogukan Batur, Alp Gulsen	212 people, 55 women and 56 men, who are engaged in individual sports, participated	individual or team sports according to different variables	According to the sports age variable, a significant difference was observed in the mental endurance total score in the control sub-dimension of individual athletes and in the continuity sub-dimension of the athletes engaged in team sports
Yunus Emre Dede	55 women and 148 men interested in wrestling participated in the study	Examining the mental toughness of wrestlers according to different variables	It is possible to say that the mental endurance of the athletes with undergraduate and graduate education is higher than the athletes with high school education
			It can be said that as the level of education increases, the level of mental endurance also increases
Recep Fatih Kayhan Serkan Hacı Caferoglu Hayri Aydogan Ibrahim Erdemir	A total of 155 athletes interested in team and individual sports participated in the study	Examining the mental resilience of athletes engaged in team and individual sports	It has been observed that there is a positive relationship between the athletes who do individual and team sports
			There was no significant difference in the gender variable
			It has been observed that the mental endurance levels of male athletes engaged in individual sports are higher than women, and female athletes engaged in team sports are higher than men

When the mental endurance level of the athletes was examined in terms of the gender variable, no significant differences were found in the literature [9].

Another factor affecting mental resilience is educational status. It has been observed that the level of mental toughness increases with the increase in education level [10]. Since the increase in the level of education and the increase in knowledge can progress linearly, we can say that the ability to think and act correctly increases. There are also studies in the literature that did not detect significant differences.

There are also studies; considering the variable of sports age, the increase in experience is a factor in increasing the level of mental toughness. It can be said that the level of mental endurance of the athletes with a lot of sports experience is higher than the athletes who have just started because they have gained a kind of habit due to encountering the same situation more than once and because they have more experience and have various ideas. However, no significant difference was found with sports age [11].

Madrigal et al. reported that mental resilience levels did not differ in their studies. He stated that the social support that team athletes can receive from their friends will affect their mental endurance levels positively and that individual athletes should make more efforts to close this gap [12].

Discussion

When the literature is examined, mental toughness is handled by different variables. When we look at the literature in terms of the gender variable, which is one of the most basic factors, it is seen that there are no significant differences, but there are studies that make a difference. Another factor affecting mental resilience is thought to be educational status. Although there is a study stating that there is no difference in the educational status variable, it is seen that there are more studies showing that the level of mental resilience increases as the educational status increases [13].

Touted as a multidimensional measure of mental toughness in sport, this study explored the psychometric properties of the psychological performance inventory and its successor the Psychological Performance Inventory-A (PPI-

A). Confirmatory factor analysis was employed to examine the extent to which data collected with 333 Australian footballers aged between 15 and 18 years ($M=16.88$, $SD=0.71$) fitted the a priori measurement models of both inventories. The results did not support the psychometric properties of the PPI both in terms of model fit and internal consistency. Although model fit data for the PPI-A were encouraging, inadequate levels of internal consistency were evidenced. Convergent validity analyses involving measures of achievement goals and global mental toughness generally supported the validity of the PPI and PPI-A subscales. Taken together with previous research, caution is urged when considering the use of the PPI as a measure of mental toughness in sport. Although the empirical data were generally supportive of the psychometric properties of the PPI-A, conceptual and methodological (*i.e.*, revalidated a flawed inventory) concerns become important factors when considering the PPI-A as a measure of mental toughness.

In relation to the study of anxiety in sport, Nesti suggested future researchers faced an important decision: To continue using the same methods and asking the same questions, thereby essentially replicating past research; or choose new approaches in an attempt to advance knowledge. With a plethora of research studies using qualitative methods and elite athletes from either generic athletic samples or mainstream sports to identify the attributes of mentally tough athletes it is reasonable to consider the value of pursuing this particular line of enquiry. Although replication plays an important role in scientific endeavour, it will be presently argued that researchers need to adopt more innovative approaches to the study of mental toughness.

This paper aims to review mental toughness research, re-examine some of the underlying conceptual and methodological issues, identify gaps in the knowledge domain and provide appropriate direction for future researchers. With apparent increased knowledge of what mental toughness is and emerging evidence of how mental toughness is developed and maintained, there is a need to carefully consider how research should proceed.

Conclusion

In this context, it can be said that as the education level increases, the individual's ability to think logically and stand strong improves. Another dimension affecting mental toughness is thought to be age. It has been observed in the

literature that mental endurance levels increase with increasing age. As the reason for this, it can be said that it is important to bring a different dimension to the situations, to expand the perspective and to control their emotions in the face of many different situations. Another variable in which the level of mental resilience increases is the experience of the sports year. Studies show that experienced athletes have higher mental endurance than inexperienced athletes. As a result, we can say that the increase in age and sports experience reflects positively on the athletes in terms of self-confidence, staying comfortable in the competition environment and being able to act without being adversely affected by negative situations. When the mental toughness levels are examined in terms of team and individual sports, there are studies showing that team sports have better mental toughness than individual sports. We can say that the reason for this is the moral motivation that teammates give each other, supporting each other in negative situations and helping them to stand strong in the face of events. As a result, mental toughness levels vary among athletes. Many factors can affect mental toughness.

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