

The Relation Between Mental Stubbornness and Sports-Burnout of Injured Athletes at Karadeniz Technical University

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Received: July 19, 2020 Accepted: August 18, 2020 Published: August 27, 2020

doi:10.5296/jei.v6i2.17364 URL: <https://doi.org/10.5296/jei.v6i2.17364>

Abstract

Sports-burnout stems from chronic stress. The aim of this study was to investigate the relationship between mental stubbornness and sports-burnout in injured athletes at the Karadeniz Technical University.

The present study is a correlational study that is applied in terms of its nature. The statistical population of the present study contains the injured athletes of Karadeniz Technical University, whose number is equal to 39 people. Because of the limited statistical population, we used the total number method. Fuller et al. (2006) Injury Report Form was used to select the injured athletes and the mental stubbornness Questionnaire and Sports disability Questionnaire were used to collect information. To analyze the data, SPSS software version 22 was used, and the Pearson correlation coefficient was used to analyze the relationship between the variables, and finally, the regression coefficient was used to determine and predict the sports-burnout of athletes affected by mental stubbornness.

The results show that there is a significant negative relation between confidence ($r = -0.51$, p

< 0.01), sustainability ($r = -0.51$, $p < 0.01$), control ($r = -0.42$, $p < 0.01$) and a total score of mental strength and sports- burnout of injured athletes ($r = -0.47$, $p < 0.01$).

We conclude that mental stubbornness reduces the likelihood of athletic impairment in athletes and is a psychological characteristic of a personality that protects athletes from developing athletic impairment.

Keywords: Mental stubbornness, Sports-burnout, Sports injury

1. Introduction

In the last decade, sports psychology studies have shown the role of social factors, especially psychological factors, in improving athletic performance, preventing injury, and rehabilitating sports injuries. Professional athletes exercise a lot of hours of the day, which in addition to consuming high physical and mental energy increases the risk of injury (Arabi et al., 2010).

Because of medical advances, most injured athletes can recover and return to pre-injury status. However, many athletes can never fully return to their pre-injury performance level. It seems that one factor that does not return to we can attribute the initial conditions to psychological factors. Research and reports show that psychological factors can be effective in preventing the occurrence of injuries. Also, these factors may play a decisive role in athletes' ability to deal with injury and endurance and the effectiveness of rehabilitation programs after being injured (Johnston et al., 1998).

Research also shows that sports injuries are effective in reducing self-esteem, increasing feelings of anonymity, anxiety, depression, and sometimes loneliness, and there is a strong link between sports injuries and these psychological traits (Ford et al., 1998).

Psychological stress, stress, anxiety, and fear of re-injury and loss of team status are some factors that affect the rehabilitation process of sports injuries. They have reported these factors in several other studies as important factors in the occurrence of sports-burnout in athletes (Lemyre et al., 2008; Nipprty & Dmith, 2008; Podlog & Eklund, 2007).

Optimal performance requires intense exercises, and exercise itself is a factor that causes negative effects of sports-burnout that may lead to quitting the exercise (Goodger et al., 2007). Sports-burnout is the withdrawal and psychological, social, and physical isolation from previous activities, resulting in intense stress that has been placed on the athlete over time (Gould et al., 1996). Sports-burnout and exhaustion have a section called time in which the athlete experiences high pressure and dissatisfaction over a long period of time (Arazshi et al., 2018).

In recent years, mental stubbornness as an important psychological factor influencing the success of athletes has attracted a lot of attention. Recently, Gucciaardi et al. (2015) introduced mental stubbornness as a one-dimensional personality trait that reflects the psychological capacity to provide optimal and regular functioning, despite different circumstances and needs. In other words, mental stubbornness acts as an organized framework that is important for dealing with internal and external pressures and stresses (Gucciaardi et al., 2015). The researchers believe that mental strength is important for growth

and achieving the desired goal and performance in stressful situations.

Sports-burnout stems from chronic stress. Therefore, individual factors related to stress seem to play an important role in the development of sports-burnout. There is evidence that certain characteristics make some athletes more sensitive to experiencing stress in sports (DeFreese & Smith, 2014; Goodger et al., 2007).

However, mental stubbornness is the opposite of these characteristics, and in such a situation, the athlete is less likely to suffer from stress, so it may be a protective factor. Mental stubbornness in two stages is likely to be associated with stress. In the first stage, an athlete with higher mental strength assesses the stressful situation as a challenge rather than a threat, so it is less difficult to cope with stressful situations than other people (Nicholls et al. 2012). Also, mental stubbornness will affect the second stage of the athlete's evaluation, that is, the process by which the person decides what strategy to use to deal with stress and how to use it. Kaiseler et al. (2009) found that most athletes with more mental stubbornness use the most effective coping strategies while confronting stressful situations. In fact, mental stubbornness is more effective in the second evaluation process and is more effective in dealing with stress in the second stage (Kaiseler et al., 2009).

According to Gucciaardi et al. (2008), mental stubbornness is a set of values and attitudes, cognitions and general and specific emotions related to sports that are inherent and acquired and affects the following factors, how to face, respond and test positive and negative pressures and, challenges and adversities and the way to achieve the goal (Gucciaardi et al., 2008).

Sports psychologists, sports commentators, coaches, and athletes have all emphasized the role of mental stubbornness as one of the psychological factors influencing excellent athletic performance. On the other hand, in studies of sports psychology, the high relationship between mental stubbornness and athletes' performance is evident (Gasiradi, 2017).

There is empirical evidence to support the protective role of mental stubbornness against sports-burnout. Mental stubbornness may fully protect a person from chronic stress, a theory that has been touted as the key to preventing sports-burnout. Gucciaardi and Gordon (2009) reported that lack of mental stubbornness has a negative and logical relationship with the sports-burnout among cricketers. However, there is limited information on the relationship between mental stubbornness and sports-burnout (Gerber et al., 2015).

Nixdorf et al. (2020) concluded that among psychological factors, dysfunctional attitudes, coping strategies, perfectionism, and stress have a significant effect on sports-burnout. Moen et al. (2017) concluded in their study that the studied psychological factors explain 0.57 of the variance of athlete's sports-burnout and the direct effect on athletes' sports-burnout is mainly because of positive variables, anxiety and negative impact.

In their study, Arazshi et al. (2018) concluded that mental stubbornness with a correlation coefficient of -0.42 was negatively correlated with sports burnout of injured athletes. According to the regression model, 18% of the sports-burnout variance is explained by mental stubbornness variance.

Since mental stubbornness is both active and reactive, it may play a more protective role against various periods and severity of stress (Gucciaardi et al., 2017). According to Sheard et al. (2009), positive traits and virtues lead to the success of athletes and this trait can be seen in the structure of mental stubbornness, and considering that sports injuries are an integral part of sports competitions in professional levels that have led to a reduction in exercise and activity, and even a long-term withdrawal from sports and sports fields. There seems to be limited empirical evidence available for the simultaneous association of the two variables of mental stubbornness and sports-burnout in the community of injured athletes, which requires further study. Therefore, in order to bridge the gap between mental stubbornness and sports-burnouts, it is necessary to conduct research that examines the relationship between mental stubbornness and sports-burnout in injured athletes. Therefore, the present study aims to investigate the relationship between mental stubbornness and sports-burnout in injured athletes at Karadeniz Technical University.

2. Method

The present study is a correlational study that is applied due to its nature and in terms of a method for collecting the data, we use a questionnaire tool. The statistical population of the present study contains the injured athletes of Karadeniz Technical University who have been injured during the last six months due to exercise or participation in competitions, which is equal to 39 people. Due to the limited statistical population, the total number method was used, and we tested all 39 participants.

Preliminary data for this study were collected from Fuller et al. (2006) injury report from the Sports Medicine journal in England, including information such as the type of injury, the cause of the injury, organs that have been injured and the severity of the injury. Mental stubbornness questionnaires and sports-burnout questionnaires were used to collect information.

2.1 Sports Mental Stubbornness Questionnaire

The Sports mental stubbornness Questionnaire was designed and validated by Sheard et al. (2009). The questionnaire includes three subscales of confidence, sustainability, and control as key factors in mental stubbornness, which is ranked on a five-point Likert scale and has 14 questions. The validity and reliability of this questionnaire have been fully confirmed, and Cronbach's alpha coefficient for its subscales has been reported from 0.71 to 0.80. We have confirmed the validity of this questionnaire through confirmatory and exploratory factor analysis (Sheard et al., 2009).

2.2 Sports-Burnout Questionnaire

The Sports-burnout Questionnaire was designed and validated by Raedeke and Smith (2001). The questionnaire has 15 items, the scores of which are graded on a five-point Likert scale. The questionnaire has three sub-scales of five items, which include reducing feelings of progress, emotional exhaustion, and worthlessness. Cronbach's alpha coefficient was obtained 0.84 for reducing the feeling of progress, 0.89 for physical-emotional exhaustion, and 0.89 for worthlessness (Raedeke & Smith, 2001).

SPSS software version 22 was used to analyze the data. In the descriptive section, the mean and standard deviation were used to describe the studied variables and the Pearson correlation coefficient was used to analyze the relationship between the variables, and finally, the regression coefficient was used to determine and predict the sports-burnout of athletes affected by mental stubbornness.

3. Results

Table 1. Mean and standard deviation of mental stubbornness and sports burnout

Variable	Mean	Standard Deviation
Confidence	3.12	0.74
Sustainability	3.62	0.61
control	3.07	0.77
Mental strength	3.27	0.59
Decrease in value	2.61	0.51
Physical and emotional exhaustion	2.50	0.46
Decreased sense of progress	1.96	0.44
Sports burnout	2.35	0.48

Table 2. The results of the correlation coefficient between mental stubbornness and sports burnout

Variables	Sports Burnout
Confidence	-0.51**
Sustainability	-0.48**
Control	-0.42**
Mental strength	-0.47**

According to the results of the above table and according to the significant level of test error, it can be said that there is a negative relation between the dimensions of confidence and sports burnout ($r = -0.51$, $p < 0.01$), sustainability and sports burnout ($r = -0.51$, $p < 0.01$), control and sports burnout ($r = -0.42$, $p < 0.01$) and between the total score of mental stubbornness and sports burnout ($r = -0.47$, $p < 0.01$) in injured athletes.

Table 3. Summary of regression model and the effect of dimensions of mental stubbornness on sports burnout

Adjusted R Square	R Square	R
0.657	0.684	0.827

According to the results of Table 3, the correlation coefficient between the dimensions of mental stubbornness with sports burnout of injured athletes is 0.82 and the coefficient of determination is 0.68. In other words, it can be said that 0.68 changes in sports burnout are determined by the dimensions of mental stubbornness and 0.32 are determined by other variables.

Table 4. Results from the effect of multiple regression equation dimensions of mental stubbornness on sports burnout

Sig.	T	Standardized Coefficients	Unstandardized Coefficients		Model	
		Beta	Std. Error	B		
0.000	-1.057		1.246	-1.562	(Constant)	1
0.000	-4.721	-0.460	1.247	-0.409	Confidence	
0.000	4.252	-0.322	1.238	-0.377	Sustainability	
0.000	-3.448	-0.282	.299	-0.331	Control	

According to the results of Table 4 and according to the beta coefficient, it can be said that the confidence dimension -0.46, the sustainability -0.32 and control -0.28 predict the changes related to the sports burnout of the injured athletes.

4. Discussion

The aim of this study was to investigate the relationship between mental stubbornness and sports burnout in injured athletes at Karadeniz Technical University. The results showed that there was a significant negative relationship between the score of mental stubbornness and sports burnout of injured athletes. This finding is consistent with the results of research by Nixdorf et al. (2020), Moen et al. (2017), Arazashi et al. (2018), and Gucciaardi et al. (2009). Nixdorf et al. (2020) concluded that among psychological factors, dysfunctional attitudes, coping strategies, perfectionism, and stress have a significant effect on sports burnout. Moen et al. (2017) concluded in their study that the studied psychological factors explain 0.57 of the variance of athlete's sports burnout. In their study, Arazshi et al. (2018) concluded that mental stubbornness with a correlation coefficient of -0.42 was negatively correlated with sports burnout of injured athletes. According to the regression model, 18% of burnout

variance is explained by mental stubbornness variance, and Gucciaardi et al. (2009) concluded in their study that mental stubbornness has a negative logical relationship with the sports burnout among cricketers.

Psychological skills refer to inherent or learned traits that make success possible or probable; these skills are the main and proven components of consistent high-level competitive performance. Researchers now believe that structures such as resilience and mental stubbornness can predict changes in athletic success. People with higher mental stubbornness are more likely to be resilient, and resilience is positively correlated sport with athletic success. Resilience means perseverance and progress in stressful situations; and mental stubbornness is a pattern of attitudes and skills that facilitates resilience.

Mental stubbornness reduces sports burnout, which is one cause of physical and mental fatigue, and reduces the amount of time that an athlete may suffer from sports burnout. These results support research hypotheses that there is a significant negative relationship between mental stubbornness and sports burnout and reducing the time when an athlete may suffer from sports burnout. Although the study sought to link the relationship between mental stubbornness and sports burnout among athletes, the results were consistent with the results of a study by Gerber et al. (2015) who examined the same relationship among athlete students.

In general, it can be said that having a negative and significant relationship between mental stubbornness and its components with sports burnout in the present study, means that the more mental stubbornness in injured athletes, the less they suffer from sports burnout. Accordingly, researchers have identified mental stubbornness as an important variable in the formation of a sense of competence and success in humans.

Effective performance requires not only the necessary and professional skills in every sport but also, according to Jones et al. (2002), one must be able to cope with pressures and difficulties overcome obstacles and failures, focus on the goal, maintain and gain relaxation after defeat, have a stable performance at high levels of competition and competitiveness. Mental stubbornness is a skill that empowers athletes and makes them more successful in difficult and stressful situations, including training, competition, and post-competition (Jones et al., 2002). Stubbornness is a set of general and specific values, attitudes, cognitions, and emotions related to exercise that are inherent or acquired, and it affects the way one encounters, responds, and tests one's positive and negative pressures, challenges, and adversities while trying to reach the desired goal (Gucciaardi et al., 2008). Mental stubbornness, with three major effects, plays an important role in reducing competitive anxiety. The first effect of mental stubbornness is perception.

The athlete with high mental stubbornness, in his opinion, perceives the least threat from sports events. Because he is purposeful, dealing with a stressful environment creates less stress for him. As a result, you will feel less intense physical anxiety and worry, and ultimately, it will be effective in reducing stress (Jones et al., 2002). Mental stubbornness in its second effectiveness makes it possible to use more effective strategies to deal with stress. Coping strategies are a set of behavioral and cognitive responses that aim to minimize

stressful situations. Based on the available evidence, greater mental stubbornness makes a person more effective in dealing with competitive stress, using conversion strategies. One of these strategies is problem-solving capabilities, in which the athlete overcomes the pressure of the situation by designing a plan and taking practical action, such as increasing stress management skills. Another effective strategy is to counteract positive and negative emotions, which enables the athlete to gain the emotional support of others, including coaches, teammates, and family, in order to alleviate helplessness and reduce the severity of cognitive difficulties.

Mental stubbornness as a source of internal resistance and coping with stressful situations increases strength, increases the sense of independence and autonomy, increases the accuracy of sports performance, and, possibly, leads to improved athlete performance (Besharat et al., 2008). All of these traits can remove the symptoms of sports burnout, such as physical and emotional fatigue, decreased exercise value, and decreased sense of accomplishment.

Examination of the relationship between sub-components of mental stubbornness and sports burnout showed that among the components of sports mental stubbornness, the component of confidence has a stronger negative relationship with sports burnout. We can interpret this result in such a way that by increasing the level of confidence of the athlete, the probability that the athlete will suffer from sports burnout will be significantly reduced. Feelings of self-confidence and high self-esteem cause self-regulation and self-efficacy in athletes and seem to be one of the most important psychological characteristics of people with high mental stubbornness (Hatam et al., 2013). The results of the present study also show that the stronger the athletes are in this trait, the less likely they are to suffer from sports burnout.

This finding is consistent with the results of research by Lemyre et al. (2008) who examined the relationship between psychological characteristics and sports burnout. The results of these studies have shown that people who have a higher sense of self-efficacy and self-confidence have more control over their abilities and capabilities, and show more effort and resistance to the pressures and stresses caused by their job.

The research results are also consistent with the findings of Perreault et al. (2007) who examined positive psychological traits in injured athletes. The results of these studies showed that injured athletes who had positive psychological characteristics were less likely to develop sports burnout.

Acknowledgements

This study improves our understanding of mental stubbornness and shows that mental stubbornness reduces the likelihood of sports burnout in athletes and is a psychological trait of personality that protects athletes from developing sports burnout. Ultimately, our better understanding of the relationship between mental stubbornness and sports burnout requires further research into the relationship between psychological factors sports burnout.

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