

Association between Mental Toughness and Fatigue among Amateur Athletes

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ABSTRACT

Objective: To determine the association between mental toughness and fatigue among amateur athletes in relation to their number of training days per week.

Study Design: Analytical cross-sectional study

Place and Duration of Study: Department of Allied Health Sciences, University of South Asia Cantt Campus Lahore from 1st October 2020 to 31st March 2021.

Methodology: Three hundred and seventy seven amateur athletes between the ages of 18 to 28 were participated. MTQ and FAS questionnaires were selected for this study.

Results: There was a substantial association between mental toughness and fatigue among amateur athletes according to their number of training days.

Conclusion: There is a significance association between mental toughness and fatigue among amateur athletes according to their number of training days.

Keywords: Mental toughness, Fatigue, Number of training days

INTRODUCTION

The idea of mental toughness has gathered considerable attention from examiners, physicians and the over-all community above the previous two eras. Inside the theoretical works, examiners have planned numerous exclusive explanations and theoretical simulations of mental toughness.¹ A variety of factors are required for male and female athletes to perform successfully in any sport. Mental toughness and weariness are two of the many aspects involved. The notion of mental toughness and tiredness has recently gotten a lot of attention from sport psychologists who are trying to figure out how athlete psychological characteristics affect performance in sports.² Mental toughness refers to a collection of psychological characteristics that are required for optimal performance. Athletes, coaches, and sport psychologists have all identified mental toughness as one of the most important psychological qualities linked to sports success.³

In many competitive sports, mental toughness (MT) has been proved to be a necessary for success. Mental toughness and exhaustion have been discovered to distinguish performers at different levels within sports. Swimmers, cricketers, footballers, badminton, hockey, taekwondo, volleyball, and runners are just a few examples.⁴ Although mental toughness was investigated in team sports such as swimming, cricket, football, badminton, hockey, taekwondo, and running, there was an upsurge in scientific interest in the role of mental toughness in sports competition.⁵⁻⁸

Although mental toughness was investigated in team sports such as swimming, cricket, football, badminton, hockey, taekwondo, and running, there was an upsurge in scientific interest in the role of mental toughness in sports competition.^{9,10} One of the most essential psychological and physiological features of sport is mental toughness and exhaustion. Mental toughness is a crucial psychological aspect of sporting success. Unfortunately, many people recognise the value of mental toughness.¹¹ Mental toughness can help manage and mitigate the effects of weariness. Fatigue is a subjective feeling of exhaustion that occurs after a period of coping with mental and physical obligations. Athletes have some exhaustion after training sessions, and if they grow fatigued, they have two options: either quit up or choose to be a soldier and continue to play. The choice here has a lot to do with motivation confidence. Mental toughness, on the other side, is the capacity to play with motivation, confidence, and pressure management. The present goal of this research is to see if there's

a link between mental toughness and exhaustion in amateur athletes based on how many training days they have.

MATERIALS AND METHODS

This cross-sectional analytical study was conducted at Department of Allied Health Sciences, University of South Asia Cantt Campus Lahore from 1st October 2020 to 31st March 2021 and 377 patients were comprised. Data collection authorization was granted by the presidents of STAGS cricket club and RAIDERS football club. The first part of the questionnaire was demographic data form and the second part was Fatigue Assessment Scale (FAS) questionnaire, and the third part was consisting of Mental Toughness Questionnaire (MTQ). The Questionnaires were administrated on the Amateur Athletes of the clubs. After explaining the objective of the study, the questionnaires were distributed among the Athletes. The instructions on how to respond on the statement were also explained to the Athletes. The surveys did not have a time restriction for completion. But Athletes were taught to do not take much time for any statement and respond to all things in the questionnaire. The Athletes responded to each question according to how they generally feel in regard to cricket and football. All the questionnaires were reminised and go on for further analysis.

Scoring each FAS item is graded on a five-point Likert scale that ranges from 1 ("never") to 5 ("always"). The scores for items 4 and 10 are reversed. Total scores can vary from 1 to 16, with 1 representing the least amount of weariness and 16 indicating the most to 17 to 34, denoting the average and moderate fatigue 35 to 50 indicating highest fatigue. Data was logged first on FAS and MTQ and analyzed through SPSS-25. Person Chi square was performed to get the results of the data. The P value is less than 0.05 which was considered significant.

RESULTS

Twenty three (6.1%) between 18 years, 35 (9.3%) between 19 years, 40 (10.6%) between 20 years, 36 (9.5%) between 21 years, 53 (14.0) between 22 years, 43 (11.4%) between 23 years, 41 (10.8%) between 24 years. 28 (7.4%) between 25 years. 33 (8.7%) between 26 years. 27 (7.1%) between 27 years, 16 (4.2%) between 28 years were belonged. Minority of the participant in the age of 28 and majority of the participant were in the age of 22 (Fig. 1).

There were 174 (46.2%) football players and 203 (53.8%) cricket players (Table 1). Thirty nine (10.3%) were doing their

training <3 days per week and 338 (89.7%) were doing training >3 days per week (Table 2).

Fifty two were those who had less than 5 years' experience and 325 are those who had more than 5 years' experience. In less than 5 years of experience 16 were with low fatigue, 30 with moderate fatigue and 6 were highly fatigued. On the other hand who had more than 5 years' experience had 188 low fatigued, 133 moderate fatigued and 4 highly fatigued. Pearson Chi-square shows there was statistical significance (P<0.05) between sports experience and fatigue (Fig. 2).

Table 1: Frequency of athletics

Game	No.	%
Football	174	46.2
Cricket	203	53.8

Table 2: Frequency of number of training days per week

Training days per week	No.	%
<3	39	10.3
>3	338	89.7

Table 3: Comparison of sports experience according to mental toughness

Sports experiment	Mental Toughness			Total
	Low MT	Moderate MT	High MT	
<5 years	39	4	9	52
>5 years	111	116	98	325

$\chi^2 = 32.445$ P value = 0.000

Table 4: Comparison of number of training in days according to mental toughness

No. of Training (days/week)	Mental Toughness			Total
	Low MT	Moderate MT	High MT	
<3	33	5	1	39
>3	117	115	106	328

$\chi^2 = 371.25$ P value = 0.000

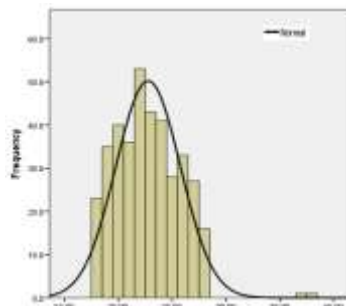


Fig 1: The histogram shows a normal distribution of population based on age

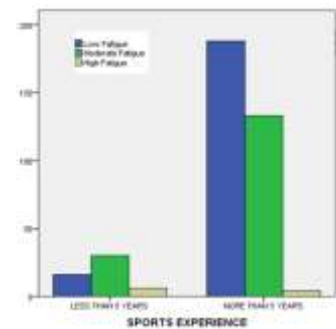


Fig. 2: Sports experience and fatigue

It shows that 52 were those who had less than 5 years' experience and 325 are those who had more than 5 years' experience. In less than 5 years of experience 39 were with low MT, 4 with moderate MT and 9 were highly fatigued. On the other hand, who had more than 5 years' experience had 111 low MT, 116 moderate MT and 98 highly MT. There was statistical significance (P<0.05) between sports experience and mental toughness (Table 3).

Less than 3 days of training, 33 were with low MT 5 with

moderate MT and 1 were highly MT. On the other hand, who did more than 3 days training per week had 117 low fatigued, 115 moderate MT and 106 highly MT. There was statistical significance (P<0.05) between number of training days and mental toughness (Table 4).

DISCUSSION

The literature on mental toughness and fatigue consistently emerged as one of the most important psychological and physiological characteristics of sport. Mental toughness is obviously necessary for optimal athletic performance, according to the literature. Gould, Hodge, Peterson, and Gould, Eklund, and Jackson are some of the authors. Mental toughness is an essential psychological quality of athletic performance, according to Williams and Gould, Dieffenbach, and Moffett. Unfortunately, while many people recognize the value of mental toughness, few really comprehend it.^{6,9}

A research by Dr Fiona Earle of Hull University used the mental toughness questionnaire in professional contexts. Results discovered that normally those who are mentally tough are less expected to experience fatigue, and in our research we also find out this type of relationship between mental toughness and fatigue.⁷

Chen conducted research to see if mental toughness separates various levels of mixed martial arts (MMA) competitors. It was hypothesized that individuals participating at the professional level would have more mental toughness than those competing at lower levels. Male MMA fighters (N=136, 27.1±4.8 years) were divided into three categories: amateur, semi-professional, and professional. On mental toughness, there were statistically significant differences between the three groups. In terms of confidence, optimistic cognition, and willpower, the professional group outperformed the semi-professional and amateur groups. The findings backed up earlier research suggesting that athletes who succeed at higher levels had better mental toughness. Our research also suggests that athletes with more than 5 years of experience have a high level of mental toughness⁸.

CONCLUSION

According to the amount of training days, there is a considerable link between mental toughness and tiredness among amateur athletes, as the number of training days increases, mental toughness increases as well, and tiredness decreases. Those that are mentally tough are less likely to have problems.

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