*African Educational Research Journal*
**Special Issue 8(1), pp. 141-145, August 2020**
**DOI: 10.30918/AERJ.8S1.20.022**
**ISSN: 2354-2160**
***Full Length Research Paper***

# The role of psychological skills (basic, cognitive and psychosomatic) in reducing traumatic student injury at the University of Trabzon

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**ABSTRACT**

Sports injuries are caused by physical activity that is done to spend leisure time or a more specialized purpose. The aim of this study was to investigate the role of psychological skills (basic, cognitive and psychosomatic) in reducing traumatic student injury at the University of Trabzon. The method of this research is descriptive and correlational. The statistical population includes all Trabzon University athletic students, which is equal to 320 people. To determine the sample size, the Cochran's sample size estimation formula was used and the number of samples was 175, which were selected by gender by stratified random sampling method. First, to report sports injuries to describe the extent of injuries in the limbs (upper limbs, lower limbs and trunk) and various parts of the body (joints, muscles and bones), the report form of sports injuries was used and to measure athletes' mental skills, the OMSAT-3, psychological skills questionnaire was used. Data were analyzed using SPSS software. Due to the normality of the data in psychological tests and the occurrence of sports injuries, logistic regression was used. The research findings show that the total score of the Omest-3 test (OR = 0.66, P = 0.03) affects the occurrence of player injuries, as well as the score of basic psychological skills (OR = 0.82, P = 0.04) on the occurrence of player injuries and ultimately the score of psychosomatic skills (OR = 1.17, P = 0.002) affects the occurrence of player injuries. But in the case of cognitive skills, the effect of this variable and its dimensions on player damage is not significant. As a result, it can be said that basic psychological skills and psychosomatic skills of athletic students reduce the harm to these athletes.

**Keywords:** Psychological skills, cognitive psychological skills, psychosomatic skills, sports injury.

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## INTRODUCTION

In recent years, participation in competitive sports at the university level has increased significantly. Along with this increase, the prevalence of injuries has also increased compared to the past, so that today sports injuries and collisions are the main reasons for disability in young athletes (Steffen et al., 2009). As a result, the demand for services provided by pathology and medical-sports specialists is increasing. Exercise-related injuries account for a high percentage of all injuries reported in medical centers during the year (Weinberg and Gould, 2003). Research shows that 50 percent of college athletes suffer from some form of physical injuries during a period of sports (Maddison and Prapavessis, 2007).

Sports injuries are caused by physical activity that is done to spend leisure time or a more specialized purpose. These injuries may also be the result of accidents or overwork (excessive activity) and are not necessarily different from injuries from non-athletic activities. Many sports injuries are insignificant and do not prevent ordinary athletes from engaging in daily activities. But for people who exercise seriously, daily activities are no longer the only issue. Injuries must be effectively

cured to enable recreational activities at the earliest opportunity (Alizadeh et al., 2006).

Sports injuries are injuries that occur as a result of severe injuries or frequent and excessive stretching during sports exercises and have a wide range in terms of type and location of injury. Research shows that in most sports, most injuries are related to the lower limbs (Abernethy and Bleakley, 2007). Shoja Al-din et al. (2008) in a study of student athletes showed that the lower limbs with 35.7% had the highest rate of injury and the head and face with 11.27% had the lowest rate of injury. This information is vital for medical-athletic team members because they are responsible for the immediate care of athletes. Although the main focus of these individuals should be on the prevention and treatment of physical injuries, it is important to be aware of athletes' mental states and how they relate to the context of their injuries (Glick and Horsfall, 2001).

Identifying the causes of sports injuries is one of the main steps in preventing injuries. In fact, recognizing the risk of factor for sports injury is an introduction to the design and implementation of preventive injury programs (Murphy et al., 2003). These risk factors are divided into two categories: external factors (such as type of exercise and weather conditions) and internal factors (such as physiological and psychological factors). So far, many studies have been conducted on the role of physical and biomechanical factors as a risk factor for player injuries; however, the relationship between players' psychological characteristics and athletes' sports injuries has been less studied (Steffen et al., 2009).

Understanding the psychological factors that affect sports injuries can help design injury prevention programs. Research has shown that psychological and personality factors can increase the risk of sports injury even more than physical and environmental factors; because successful performance in sports is not just about health and fitness; it also depends on one's mental readiness. For example, Stephen et al. (2009) showed in a futuristic study that perceived stress and skill atmosphere have a significant relationship with the occurrence of new injuries in female soccer players.

In this regard, Gouttebarge et al. (2015) reported a positive relationship between the number of skeletal and muscular injuries and psychological parameters such as anxiety and sleep disorders in European professional male players. The researchers believe that players who have suffered one or more injuries during their professional life are two to four times more likely to have signs and symptoms of mental disorders (Gouttebarge et al., 2016). Yang et al. (2014) also found that depression was directly related to the likelihood of injury in American football players, and that players with depressive symptoms were 10 percent more likely to be injured. It is worth noting that these researchers reported a positive and supportive effect on anxiety (Yang et al., 2014).

Kleinert (2007) reported that psychological and personality factors can be associated with injury. The researcher considers two factors of inefficiency of physiological psychological process (including attention deficit disorder, very high or low arousal and poor muscle coordination) and inefficiency in decision making or management of the main risk as the main factors in athlete injury. Also, Smith et al. (1990) reported that athletes with low levels of logical behavior had lower stress management skills and were more likely to be harmed than those with high levels of logical behavior (Smith et al., 1990). Other researchers have stated that excitement, stress management strategies, competitive anxiety, trait anxiety, and risk factors are among the psychological factors influencing the risk of sports injuries (Williams and Andersen, 1998). Ivarsson and Johnson (2010) in a similar study involving 152 male and female footballers said that four factors: sports stress, traumatic anxiety, insecurity, and poor coping skills can predict 23 percent of sports injuries (Ivarsson and Johnson, 2010).

Considering that most of the studies that have been done to identify the risk factors of psychological factors in the occurrence of injuries have examined the relationship and by examining the extent of the relationship cannot predict the occurrence of injuries, in the present study we seek to answer the question that What role do psychological skills (basic, cognitive and psychosomatic) play in reducing traumatic student injury at the University of Trabzon?

## METHODOLOGY

The method of this research is descriptive and correlational. The statistical population includes all athletes of Trabzon University, which is equal to 320 people. To determine the sample size, the Cochran's sample size estimation formula was used and the number of samples was 175, which were selected by gender by stratified random sampling method.

First, to report sports injuries to describe the extent of injuries in the limbs (upper limbs, lower limbs and trunk) and various parts of the body (joints, muscles and bones), the reporting form of sports injuries is used and the required information is based on interviews with athletes and information on the type and severity of injuries was obtained in accordance with their medical records. This form was compiled in a study by Rezaei (2005) and its validity was reported to be 0.78.

In this study, injuries were recorded that occurred during training or competition, during which the injured player was not able to participate in the training session or the next day's match of the team. At this stage, the coaches of the teams were asked to write down the players' injuries in the injury registration form (Soligard et al., 2010). Then, the athletes' psychological skills were evaluated using the OMSAT-3 questionnaire (Utava-3 Psychological Skills Measurement Tool). The

questionnaire consists of three sub-scales and several psychological skills in each sub-scale: basic psychological skills (self-confidence, commitment and goal setting), psychosomatic skills (reaction to stress, relaxation, fear control and activation) and cognitive skills (focus, focus retrieval, mental practice, visualization, and competition design). The score of the answers given to this questionnaire includes a scale of seven from completely agreeable (7 points) to completely opposite (zero point). The maximum scores obtained under the scales of basic skills, psychosomatic skills and cognitive skills are 84, 112 and 140, respectively. The validity and reliability of the questionnaire were examined by Shahbazi et al. (2011) on 333 athletes. The stability of questionnaire was reported to be 0.74 based on Cronbach's alpha test and its reliability was reported to be 0.82 (using re-test). Also, age, sex, injury status (competition or training) and sports field were determined in the first questionnaire and descriptive statistics methods, psychological skills and the amount of prevalence were determined using SPSS software. Due to the normality of the data in psychological tests and the occurrence of injuries Sports, logistic regression was used.

## RESULTS

Table 1 shows the demographic information of the athletes.

According to the results of Table 1, the average age of athletic students is 23.18, their average height is 171.16 and the average weight of athletic students is 69.

According to the results of Table 2, logistics regression test shows that the total score of Omest-3 test (OR = 0.66, P = 0.03) affects the occurrence of player injuries, as well as the score of basic psychological skills (OR = 0.82, P = 0.04) and ultimately scores of psychosomatic skills (OR = 1.17, P = 0.002). But in the case of cognitive skills, the effect of this variable and its dimensions on player damage is not significant.

**Table 1.** Demographic information.

| Var | Age | Height | Weight |
|---|---|---|---|
| Mean | 23.18 | 171.16 | 69.01 |
| Standard deviation | 1.4 | 4.3 | 5.1 |

**Table 2.** Logistics regression test results to examine the role of psychological skills in injury.

| | Test | Sub scale | Components | Wald | df | Exp (B) | Sig |
|---|---|---|---|---|---|---|---|
| 1 | The total score of the OMEST test 3 | | | 4.01 | 1 | 0.62 | .03* |
| 2 | | Basic psychological skills | | 3.72 | 1 | 0.82 | .04* |
| 3 | | | Self Confidence | 0.32 | 1 | 0.83 | 0.53 |
| 4 | | | Obligation | 3.63 | 1 | 0.86 | .04* |
| 5 | | | Goal setting | 5.02 | 1 | 0.5 | .01* |
| 6 | | Psychoanalytic skills | | 8.64 | 1 | 1.17 | .002* |
| 7 | | | Reaction to stress | 4.61 | 1 | 1.12 | .02* |
| 8 | | | Relaxation | 2.23 | 1 | 1.16 | 0.1 |
| 9 | | | Fear control | 5.11 | 1 | 1.24 | .02* |
| 10 | | | Activation | 0.23 | 1 | 1.02 | 0.62 |
| 11 | | Cognitive skills | | 2.2 | 1 | 1.3 | 0.12 |
| 12 | | | Focus | 2.6 | 1 | 0.63 | 0.09 |
| 13 | | | Focus Recycling | 1.07 | 1 | 1.1 | 0.29 |
| 14 | | | Mental practice | 0.49 | 1 | 0.82 | 0.46 |
| 15 | | | Illustration | 0.18 | 1 | 0.87 | 0.64 |
| 16 | | | Race plan | 0.06 | 1 | 0.98 | 0.8 |

## Conclusion

The results showed that basic psychological skills and psychosomatic skills affect players' injuries. In other words, basic psychological skills and psychosomatic skills in athletic students reduce the harm to athletes. The research results are consistent with the findings of the research. Shahbazi et al. (2011) examined the relationship between mental skills and sports injuries in athletes present at the Student Sports Olympiad and found a significant relationship between cognitive skills and sports injuries. Biglar et al. (2014) also stated in a

study that there is a significant relationship between basic mental skills, psychosomatic skills and cognitive skills with the number of injuries of football players. Also, Ivarsson and Johnson (2010) in a study conducted with the presence of 152 male and female football players introduced psychological factors as predictors of sports injuries. Kleinert (2007) also stated that psychological and personality factors can be associated with injury.

In addition, the results indicate that the components of commitment and targeting among the components of basic psychological skills and the components of response to stress and fear control, among the components of psychosomatic skills, play a significant role in students' sports injuries. In this domain, there are various models that describe the relationship between psychological factors and the occurrence of sports injuries. The stress model of Williams and Andersen's stress (1998) and the Rogers and Landers' (2005) stress response model are two examples of the most popular and available models. According to Williams and Andersen, psychological factors affecting sports injury are divided into three groups: personality, history of stressors, and sources of coping. As with current research, Williams and Andersen's review articles show that there is a significant relationship between life stress and sports injuries. Penczek (2004) also found in a study that anxiety has a significant effect on increasing the incidence of sports injuries. Kontos (2004) also identified risk acceptance and personality as influential factors in this regard.

Overall, research has shown that mental skills can predict the occurrence of sports injuries; therefore, it seems that it is possible to identify athletes at risk of injury by recognizing their psychological components. Coaches and researchers can also use this to design and implement a preventive injury plan for at-risk players; for example, Johnson et al. (2005) conducted a study in this field. First the at-risk players were identified by a questionnaire designed to identify psychological factors, and then designed and implemented harm prevention programs such as release techniques and imaging exercises for these players over six sessions. The results showed that the rate of injury in players has decreased significantly. Therefore, the results of the present study can be effective in identifying psychological skills in the occurrence of injuries to provide preventive measures against injury.

Given that psychological skills and their components play a significant role in the sports injuries of sports students in the present study, university officials, educators and specialists in the field of sports pathology and sports psychologists can be advised to train through psychological skills and increase the level of mental skills in athletes in different levels, especially higher levels and try to prevent and reduce the risk of injury. Finally, in addition to reducing the incidence of injury, the cost of treatment and the length of time the athlete has been away from the sports field will also be reduced.

**REFERENCES**


**Abernethy**, L., and **Bleakley**, C. (**2007**). Strategies to prevent injury in adolescent sport: a systematic review. British Journal of Sports Medicine, 41: 627–638.

**Alizadeh**, M. H., Qara Khanlou, R., and Daneshmandi, H. (**2006**). Prevention and treatment of sports injuries. Organization for the Study and Compilation of Textbooks (Samt), p. 10-11.

**Biglar**, K., Alizadeh, M. H., and Khabiri, M. (**2014**). Investigating the relationship between psychological skills and injuries of football players of Tehrani teams of Iran Premier League. Journal of Sports Medicine (Harakat), 6(2): 89-102.

**Glick**, I. D., and **Horsfall**, J. L. (**2001**). Psychiatric conditions in sport. Physician and Sports Medicine, 29: 44-52.

**Gouttebarge**, V., Aoki, H., Ekstrand, J., Verhagen, E. A., and Kerkhoffs, G. M. (**2016**). Are severe musculoskeletal injuries associated with symptoms of common mental disorders among male European professional footballers? Knee Surgery, Sports Traumatology, Arthroscopy, 24(12): 3934–3942.

**Ivarsson**, A., and **Johnson**, U. (**2010**). Psychological factors as predictors of injuries among senior soccer players: A prospective study. Journal of Sports Science and Medicine, 9(2): 347-352.

**Johnson**, U., Kkengren, J., and Andersen, M. B. (**2005**). Injury prevention in Sweden: Helping soccer players at risk. Journal of Sport and Exercise Psychology, 27: 8-32.

**Kleinert**, J. (**2007**). Mood states and perceived physical states as short term predictors of sport injuries: Two prospective studies. International Journal of Sport and Exercise Psychology, 5(4): 340-351.

**Kontos**, A. P. (**2004**). Perceived risk, risk taking, estimation of ability and injury among adolescent sport participants. Journal of Pediatric Psychology, 29(6): 447-455.

**Maddison**, R., and **Prapavessis**, H. (**2007**). Preventing Sport Injuries: A Case for Psychology Intervention. In D. Pargman (Ed.) Psychological bases of Sport Injuries (PP: 25-38) Morgantown: Fitness Information Technology.

**Murphy**, D. F., Connolly, D. A. J., and Beynnon, B. D. (**2003**). Risk factors for lower extremity injury: A review of the literature. British Journal of Sports Medicine, 37(1): 13-29.

**Penczek**, G. A. (**2004**). An examination of the relationship between psychological conditions and the incidence of athletic injury. (Unpublished doctoral dissertation). Salisbury University, Salisbury, Maryland.

**Rezaei**, M. (**2005**). Relationship between psychological factors (self-esteem, competitive adjective anxiety) and the prevalence of sports injuries in wrestling and handball. Master Thesis, University of Tehran.

**Rogers**, T. J., and **Landers**, D. M. (**2005**). Mediating effects of peripheral vision in the life event stress/ athletic injury relationship. Journal of Sport and Exercise Psychology, 27(3): 271-288.

**Shahbazi**, M., Vazini, T. A., and Varhimizadeh, M. (**2011**). Relationship between the prevalence of sports injuries and psychological readiness of male and female students in the 10th Sports Olympiad of the country's students. Journal of Sports Medicine (Movement), 6: 125-144.

**Shoja Al-Din**, Sayyid Sadr Al-Din Alizadeh, and Mohammad Hossein Moradi, Mehdi. (**2008**). Investigation of the prevalence of sports injuries and traumatic factors in male students of Payame Noor University. Research in Sports Science, 19: 83-91.

**Smith**, R. E., Smoll, F. L., and Ptacek, J. T. (**1990**). Conjunctive moderator variables in vulnerability and resiliency research: Life stress, social support and coping skills, and adolescent sport injuries. Journal of Personality and Social Psychology, 58(2): 360-370.

**Soligard**, T., Nilstad, A., Steffen, K., Myklebust, G., Holme, I., Dvorak, J., Bahr, R., and Andersen, T. E. (**2010**). Compliance with a comprehensive warm-up programme to prevent injuries in youth football. British Journal of Sports Medicine, 44(11): 787-793.

**Steffen**, K., Pensgaard, A. M., and Bahr, R. (**2009**). Self-reported psychological characteristics as risk factors for injuries in female youth football. Scandinavian Journal of Medicine and Science in Sports, 19: 442-451.

**Weinberg**, R. S., and **Gould**, D. (**2003**). Foundations of Sport &

Exercise Psychology. Champaign: Human Kinetics.
**Williams**, J. M., and **Andersen**, M. B. (**1998**). Psychosocial antecedents of sport injury: Review and critique of the stress and injury model. Journal of Applied Sport Psychology, 10(1): 5-25.
**Yang**, J., Cheng, G., Zhang, Y., Covassin, T., Heiden, E. O., and Peek-Asa, C. (**2014**). Influence of symptoms of depression and anxiety on injury hazard among collegiate American football players. Research in Sports Medicine, 22(2): 147-160.

**Citation**: Sajedi, H., Ozturk, D., and Ozturk, M. E. (2020). The role of psychological skills (basic, cognitive and psychosomatic) in reducing traumatic student injury at the University of Trabzon. African Educational Research Journal, 8(1): S141-S145.