

## Have University Sport Students Higher Scores Depression, Anxiety and Psychological Stress?

Havva Demirel,

Selçuk University, TURKEY

### ABSTRACT

Multiple studies have now shown that people who maintain appropriate body fitness, using judicious regimens of exercise and weight control, have the additional benefit of prolonged life. In fact, sport or exercise may be also expected to be helpful for psychological health. In the present study, depression, anxiety and psychological stress points in athlete university students in comparison with non-athlete university students were investigated. In the present study, athlete university students had higher depression, anxiety and psychological stress points compared to non-athlete university students. The possible causes the higher depression, anxiety and psychological stress scores in Turkish athlete university students compare to non-athlete university students may be due to the factors such as (1) the fear of occupational forthcoming, (2) ambiguousness in occupational career, (3) physical or somatic stress associated with training programs of vigorous exercise.

### KEYWORDS

athlete university students, depression, anxiety, psychological stress

### ARTICLE HISTORY

Received 14 June 2016

Revised 24 July 2016

Accepted 27 July 2016

### Introduction

Multiple studies have now shown that people who maintain appropriate body fitness, using judicious regimens of exercise and weight control, have the additional benefit of prolonged life. Especially between the ages of 50 and 70, studies have shown mortality to be three times less in the most fit people than in the least fit (Guyton & Hall, 2006, p.1066). In fact, sport or exercise may be also expected to be helpful for psychological health.

Currently, studies on sportive activity and depressive symptoms are rare. Depression among elite athletes is a topic of increasing interest and public awareness. Recent results indicate sport-related mechanisms and effects on

### CORRESPONDENCE

Havva Demirel ✉ [havvademirel@selcuk.edu.tr](mailto:havvademirel@selcuk.edu.tr)

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depression prevalence in elite athlete samples; specific factors associated with depression include overtraining, injury, and failure in competition (Nixdorf, Frank & Beckmann, 2016).

In a recent study, athletes in individual sports showed higher scores in depression than athletes in team sports. The results support the assumption of previous findings on sport-specific mechanisms (here the effect between individual and team sports) contributing to depressive symptoms among elite athletes. Additionally, attribution after failure seems to play an important role in this regard and could be considered in further research and practitioners in the field of sport psychology (Nixdorf, Frank & Beckmann, 2016).

Newman, Howells, Fletcher (2016) reported the dark side of top level sport in an autobiographic analysis. The analysis revealed a temporal aspect to the depressive experiences that the athletes reported. Initially, sport represented a form of escape from the depressive symptoms which had been exacerbated by both external stressors and internal stressors. However, in time, the athletes typically reached a stage when the demands of their sport shifted from being facilitative to being debilitating in nature with an intensification of their depressive symptoms. This was accompanied by deliberations about continuing their engagement in sport and an acceptance that they could no longer escape from their symptoms, with or without sport. The findings extend the extant literature by suggesting a reciprocal relationship between depressive experiences and sport performance, and they support the general psychology literature relating to the negative impact of depression on performance.

Mental health problems are common in European adolescents (McMahon et al., 2016). The multi-center Saving and Empowering Young Lives in Europe study reported that 5.8 % of participants met criteria for an anxiety disorder, 10.5 % met criteria for depressive disorder (Balazs et al., 2013), while 32.3 % report suicidal thoughts (Carli et al., 2014).

In this study, we examined depression, anxiety and psychological stress points in athlete university students in comparison with non-athlete university students.

## **Subjects and Methods**

### **Subjects**

One hundred and twenty-four sedentary or non-athlete university students (64 women,  $M_{age} = 21.28, SD = 1.79$ ; 60 men,  $M_{age} = 21.12, SD = 1.81$ ) and 79 athlete (sportsmen) university students (27 women,  $M_{age} = 21.44, SD = 1.91$ ; 52 men,  $M_{age} = 21.44, SD = 1.73$ ) participated in this study. Athletes were also students in Physical Training and age was not different statistically significantly by sex and sport. Exclusion criteria were health problems such as psychiatric, respiratory, metabolic, cardiac, or autonomic nervous system diseases that might change the depression, anxiety and psychological stress parameters. The present study was approved by the ethical committee of Selcuk University, Faculty of Sport Sciences.

### **Depression, Anxiety and Psychological Stress Assessment**

The Turkish version (Bilgel & Bayram, 2010) of Manual for the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995) was used to assess the points associated with depression, anxiety and psychological stress of participants.



### Statistical Analyses

Measured values are given as a mean +/- standard deviation. Statistical analysis was performed using SPSS for Windows (version 16.0) statistical program. Student's t test was used to compare the depression, anxiety and psychological stress points in athlete and non-athlete university students. A p value less than 0.05 was considered significant.

### Results

Athlete university students had statistically significantly higher depression, anxiety and psychological stress points compared to non-athlete university students (depression:  $t=5.19$ ,  $p=0.00$ ; anxiety:  $t=6.77$ ,  $p=0.00$ ; psychological stress:  $t=3.11$ ,  $p=0.002$ ) (see Table 1). There were not any statistically significant differences between students in individual and team sports in terms of depression, anxiety and psychological stress.

Table 1. Means and standard deviations of depression, anxiety and psychological stress scores in non-athlete and athlete university students.

Parameters	Non-athletes N=124	Athletes N=79	t	p
Depression	9.84±8.62	16.24±8.51	5.19	0.00
Anxiety	9.69±7.58	17.18±7.86	6.77	0.00
Psychological Stress	15.62±7.88	19.04±7.24	3.11	0.002

### Discussion

Multiple studies have now shown that people who maintain appropriate body fitness, using judicious regimens of exercise and weight control, have the additional benefit of prolonged life. Especially between the ages of 50 and 70, studies have shown mortality to be three times less in the most fit people than in the least fit (Guyton & Hall, 2006, p.1066). In fact, sport or exercise may be also expected to be helpful for psychological health.

In the present study, athlete university students had higher depression, anxiety and psychological stress points compared to non-athlete university students. These results were consistent with some recent studies in elite athletes in which athletes in individual sports showed higher scores in depression than athletes in team sports (Nixdorf, Frank & Beckmann, 2016).

In another recent study in retired professional footballers, prevalence of symptoms related to mental disorders among 219 retired professional footballers ranged from 11% for adverse smoking behavior and 18% for distress, to 35% for anxiety/depression and 65% for adverse nutrition behavior. Especially life events that occurred in the last six months were positively associated with stress, anxiety/depression, sleeping disturbance and adverse nutrition behavior. A high prevalence of symptoms related to mental disorders was found among retired professional footballers (Gouttebarga, Aoki & Kerkhoffs, 2016).

The possible causes the higher depression, anxiety and psychological stress scores in Turkish athlete university students compare to non-athlete university students may be due to the factors such as (1) the fear of occupational forthcoming, (2) ambiguousness in occupational career, (3) physical or somatic stress associated with training programs of vigorous exercise. Therefore, for clean knowledge about higher depression, anxiety and psychological stress in athlete university students, robust replications were required.

### Disclosure statement

No potential conflict of interest was reported by the authors.

### References

- Guyton AG, Hall JE. Textbook of Medical Physiology. Elsevier Saunders, Philadelphia, Pennsylvania, 2006.
- Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety Stress Scales. (2nd. Ed.) Sydney: Psychology Foundation. ISBN 7334-1423-0.
- Lovibond, P.F. & Lovibond, S.H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33, 335-343.
- Nixdorf I, Frank R, Beckmann J. Comparison of athletes' proneness to depressive symptoms in individual and team Sports: research on psychological mediators in junior elite athletes. *Front Psychol*. 2016;17;7:893.
- Newman HJ, Howells KL, Fletcher D. The dark side of top level sport: An autobiographic study of depressive experiences in elite sport performers. *Front Psychol*. 2016;7;7:868.
- McMahon EM. Physical activity in European adolescents and associations with anxiety, depression and well-being. *Eur Child Adolesc Psychiatry*. 2016, in press.
- Balazs J et al. (2013) Adolescent subthreshold-depression and anxiety: psychopathology, functional impairment and increased suicide risk. *J Child Psychol Psychiatry* 54(6):670-677.
- Carli V et al. (2014) A newly identified group of adolescents at "invisible" risk for psychopathology and suicidal behavior: findings from the SEYLE study. *World Psychiatry* 13(1):78-86.
- Bilgel N, Bayram N. Turkish Version of the Depression Anxiety Stress Scale (DASS-42): Psychometric Properties. *Archives of Neuropsychiatry* 2010; 47: 118-26.
- Gouttebarge V, Aoki H, Kerkhoffs GM. Prevalence and determinants of symptoms related to mental disorders in retired male professional footballers. *J Sports Med Phys Fitness*. 2016;56(5):648-54.