

Disabled Athletes Have Higher Alexithymia Scores Compared to Disabled Non-Athletes

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ABSTRACT

Introduction: Alexithymia means difficulties identifying and describing one's own emotions.

Aim: This study was conducted to investigate the differences in alexithymia and social comparison scale scores in disabled athletes and disabled non-athletes.

Materials and Methods: One hundred and seventy-two sedentary or disabled non-athletes and 167 disabled athletes participated in the study. The Turkish version of the Social Comparison Scale was used to assess the points associated with social comparison scale. The Turkish version of Toronto Alexithymia Scale (TAS-20) was used to assess the points associated with alexithymia.

Results: Disabled athletes had higher alexithymia scores compared to disabled non-athletes. But, the social comparison score was not different between disabled athletes and non-athletes. Also, the alexithymia scores had positive correlation with the social comparison score in total sample and in disabled athletes, but not in non-athletes.

Conclusion: The higher alexithymia scores in disabled athletes may be related to the higher depression, anxiety and psychological stress in athletes compared to non-athletes.

Key words: Alexithymia, Social comparison, Disability, Athlete

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INTRODUCTION

Alexithymia, introduced in 1973 by Sifneos et al., is defined in terms of difficulties identifying and describing one's own emotions [1,2]. Over the past decades, little attention has been paid to alexithymia research, in particular, the ability to perceive non-emotional states of the body known as interoception—the perception of a wide range of physical states beyond emotion, including heart rate, respiratory effort, temperature, itch, pain, fatigue, hunger, thirst, satiety, sensual touch, vasomotor activity, muscular and visceral sensations [3]. Interoceptive processing and representation takes places primarily in the insula and anterior cingulate cortex [3,4]. Neuroimaging data indicate that amygdala dysfunction may play a role in alexithymia [5].

The results of a recent study indicated that alexithymia is associated with poor non-affective interoception and increased perceived similarity between affective and non-affective states. It was suggested that alexithymia is better characterized by a general failure of interoception [4] rather than being specifically associated with

affective disorder. Though not many studies have been conducted on alexithymia, available data indicate that alexithymia can lead to many neuropathological situations and also may decrease the success rate of individuals who engaged in sporting activities. In a relatively recent study, Barlow et al. reported a relationship between alexithymia and the likelihood of sport accidents in healthy athletes [6]. Athletes who had difficulty identifying and describing their emotions were more likely to seek out the experience of emotions and engage in greater risk taking [6]. In another study, changes in alexithymia were evaluated among patients with scoliosis treated non-operatively. Low physical activity in the patients with idiopathic scoliosis referred for brace treatment was reported to coexist with lower Toronto Alexithymia Scale-26 (TAS-26) scores in the course of brace treatment [7].

It is not clear whether or alexithymia is also related to social behaviors—self-perception of social rank and relative social standing in the society, evaluated on social comparison scale. The scale is used to rate an individual and in relation to other people. It can be used to assess behaviors that affect trainee-trainer relationship, peer acceptance, performance among others [8].

Though some studies have reported lower physical activity in healthy and patients suffering from

alexithymia [6,7], the relation of sport performance with alexithymia has not been unequivocally established in disabled athletes and disabled sedentary individuals. To this end, this study was conducted to investigate the differences in alexithymia and social comparison scale scores in disabled athletes and non-athletes.

METHODS

Ethical statement

This study was performed in accordance with the Declaration of Helsinki and approved by the Local Committee for Medical Research Ethics.

Subjects

The present study was approved by the ethical committee of Selcuk University, Faculty of Sport Sciences, Konya, Turkey. One hundred and seventy-two disabled sedentary individuals or non-athletes (23 women, mean age=24.23 years, SD=1.82; 144 men, mean age=25.09 years, SD=2.31) and 167 disabled athletes (67 women, mean age=25.44 years, SD=1.61; 105 men, mean age=24.44 years, SD=1.73) participated in this study. Athletes were also players of Konya Sport Agency, Konya, Turkey. All participants signed informed consents after the aims and objectives of the study have been clearly explained.

Exclusion criteria were health problems such as psychiatric, respiratory, metabolic, cardiac, or autonomic nervous system diseases that might change the alexithymia and social comparison scale scores.

Alexithymia and social comparison scale assessment

The Turkish version [9] of the Social Comparison Scale [8] was used to assess the points associated with social comparison scale [8]. The Turkish version [10] of Toronto Alexithymia Scale (TAS-20) [9] was used to assess the points associated with alexithymia. The method of evaluation of social comparison scale and TAS-20 was conducted according to studies done by Allan et al. [8], Sahin et al [9], Bagby et al. [11] respectively.

Statistical analysis

Measured values are given as a mean +/- standard deviation. Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) for Windows (version 16.0) (SPSS Inc., Chicago, IL, USA). Student's t-test was used to compare the alexithymia and social comparison scale scores in disabled athletes and disabled non-athletes. A value of $p < 0.05$ was considered significant.

RESULTS

Disabled athletes had statistically significant higher alexithymia scores compared to disabled non-athletes

($t=4.92$, $p=0.00$) (Table 1). But, the social comparison score was not statistically different between disabled athletes and non-athletes. Also, there was a sex related different in disabled athletes in terms of social comparison score ($t=2.72$, $p=0.007$) (Table 2).

Table 1: Means and standard deviations of alexithymia, social comparison scale scores in disabled non-athletes and athletes

Parameters	Athletes (N=167)	Non-athletes (N=172)	t	p
Alexithymia score	58.13 ± 9.27	53.65 ± 7.43	4.92	0
Social comparison scale	74.39 ± 17.81	72.54 ± 13.25	1.01	0.27

Table 2: The sex differences in alexithymia, social comparison scale scores in non-athlete and athlete disabled subjects

Athletes (N=167)				
Parameters	Men (N=144)	Women (23)	t	p
Alexithymia score	57.95 ± 9.5	59.26 ± 7.75	0.63	0.53
Social comparison scale	72.92 ± 17.74	83.61 ± 15.68	2.72	0.007
Non-athletes (N=172)				
Parameters	Men (N=105)	Women (67)	t	p
Alexithymia score	53.76 ± 7.47	53.41 ± 7.46	0.3	0.76
Social comparison scale	72.37 ± 13.01	72.5 ± 13.48	0.06	0.95

Correlation analysis revealed statistically significant positive Pearson correlation between alexithymia and social comparison score in total sample ($r=0.21$, $p=0.00$) and in disabled athletes ($r=0.25$, $p=0.00$), but not in disabled non-athletes.

DISCUSSION

Alexithymia is a personality construct characterized by altered emotional awareness of self that is gaining attention in several disciplines, including psychosomatic medicine, sport, and neuropsychiatry. Research suggests that this emotional disorder overlaps with autism spectrum disorder [12]. Furthermore, higher alexithymia levels have been associated with a higher risk of chronic pain in the general population [13]. Therefore, early identification and treatment of alexithymia may be beneficial in preventing chronic pain and reducing the suffering and financial burden associated with chronic pain, and also, improve performance in a range of human activities including sports.

Consistent with previous studies [6,7], this present study revealed that disabled athletes had higher alexithymia scores compared to disabled non-athletes. More so, alexithymia scores positively correlated with the social comparison score in total sample and in disabled athletes, but not in non-athlete ones. It can be suggested that the higher alexithymia scores in disabled athletes may be related to the higher depression, anxiety and psychological stress in athletes compared to non-athletes [14,15]. Indeed a couple of researchers have reported association between alexithymia and anxiety,

depression, substance misuse, and with other somatic and neurological diseases including diabetes mellitus, hypertension, Parkinson's disease, multiple sclerosis among others [16,17].

Though data are scanty and the mechanisms are not exactly clear, available literatures show that there is generally a growing attention on the relationship between alexithymia and exercise. Manfredi et al. reported correlation between alexithymia and exercise addiction [18]. Allegre et al. previously reported more pronounced alexithymic characteristics in expert swimmers, who spend 22 hours per week training, compared with amateur swimmers who train 6 hours per week [19]. Similar results were reported by Price et al. among skydivers with greater experience [20]. In another study conducted among skydivers, it was revealed that this form of sports was a means of regulating emotion for alexithymics. However, the researchers observed that the benefits of skydiving on regulating emotion was short lived immediately after landing [21], suggesting that skydiving environment only temporarily satisfies the high risk seeking behavior and emotion [22]. Compared to their non-skydivers, alexithymic skydivers had significantly higher level of anxiety fluctuation [22]. It is necessary, therefore, for future studies to investigate the mechanisms of development of alexithymia in sports and other activities of humans.

The results of this study and those of other authors [6,7] provide useful information for improving performance in physical training and other related activities of humans.

CONCLUSION

Disabled athletes had higher alexithymia scores compared to non-disabled athletes. The higher alexithymia scores in disabled athletes may be related to disordered social behavior, possibly due to higher level of depression, anxiety and psychological stress.

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