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## EMOTIONAL INTELLIGENCE IN MALE AND FEMALE SPORT CLIMBERS

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### Abstract

**Background:** Emotions are a fundamental aspect of the sport activity manifesting itself in mental and physiological processes. In sport training, they act as motivational, informative and communicative factors. The ability to recognize emotional states, understand them, and express themselves in sport activity is an aspect of emotional intelligence that contributes to success in sport performance.

**Aim:** The aim of presented study is to compare the emotional intelligence traits in male and female sport climbers.

**Material and methods:** We examined 60 sport climbers (30 men, 30 women) aged 23±1 years. The average time of climbing training was 6 years. The study used the Popular Emotional

Intelligence Questionnaire (PKIE). PKIE consists of 94 items of self-assessment. The questionnaire allows to calculate results on four-factor scale and the overall score.

**Results:** The results showed there were significant differences between the two groups on the scale of emotions control, understanding and realizing own's emotions and in general indicator of emotional intelligence. In the indicated scales, men achieved higher average results. There were no significant differences in accepting, expressing and using emotions on both action and empathy scales.

**Conclusions:** Male sport climbers used the recognition and understanding of emotional states to solve problems for success in climbing and characterize their higher level of overall emotional intelligence in a better way. Sport climbers of both sexes had average levels of acceptance of emotion and empathy. This means that climbers of both sexes were characterized by low levels of other emotional experiences and the use of emotional experiences in prospective activities.

**Keywords:** Emotional intelligence, emotions, sport climbing

## INTRODUCTION

Emotions are a fundamental aspect of sporting activity that affects the results achieved. Their intensity manifests itself in the physiological and mental activity of the athlete's body. In the athletes training, emotions have informative, communicative and motivational functions. In extreme physical activity, such as sport climbing, both physiological and psychological factors (personality, ability to recognize emotions and effective control over them) are the basis for success (1, 2).

Emotional intelligence, defined as an ability to perceive and regulate emotions in oneself, is considered as one of the predictors of success in various life situations (3). In sport activity, emotional intelligence is defined as a personality trait related to emotions, reactions to stress, and the use of psychological skills to achieve the best sport result (4). It affects the athletic performance by evaluating emotions, stress, and adjusting emotional state to the starting position (5). In addition, it has neuropsychological, temperamental and social background (6-8). Emotional intelligence is related to the use of effective coping strategies in athlete's difficult situations and the satisfaction of the athlete with the achieved result (4, 5, 9, 10). Therefore, one of the most important aspects of emotional intelligence research in sport is their impact on the athlete's performance in training and start-up situations, characterized by high levels of anxiety

and stress. There is insufficient research on emotional intelligence among male and female extreme sports athletes, such as sport climbers, where the level of exposure to emotional stress is high.

The aim of presented study is to compare the emotional intelligence traits in male and female sport climbers.

## **MATERIALS AND METHODS**

We examined 60 sport climbers (30 men, 30 women) aged  $23\pm 1$  years. The average time of climbing training was 6 years. All sportsmen and controls gave their informed consent to participate in the study. The study protocol was in accordance with the Declaration of Helsinki for Human Research.

The study used the Popular Emotional Intelligence Questionnaire (PKIE) developed by Aleksandra Jaworowska et al. 2005, which is based on the Salovey and Mayer's concept of emotional intelligence (11). In Salovey and Mayer's concept, emotional intelligence is understood to be a collection of various cognitive abilities and is equated in both body position and behavior. (12, 13). The PKIE questionnaire consists of 94 items of self-assessment and allows to calculate results on the four-factor scales as well as to the gain overall score. The scales included in the PKIE questionnaire are: AKC (acceptance, expression, and use of one's emotions in action), EMP (empathy, or understanding and recognition of other people's emotion), KON (control, also cognitive, self-emotions), and ROZ (understanding and self-awareness emotions) (11).

IBM SPSS STATISTICS 21 program was used to prepare the statistical analysis. To compare the variables between the groups, T-test for independent-samples was used. Differences were regarded as statistically significant if the level of significance was lower than 0,05 ( $p < 0,05$ ).

## **RESULTS**

The results showed there were significant differences between the two groups on the scale of emotions control (KON), understanding and realizing own's emotions (ROZ) and in general indicator of emotional intelligence (PKIE). In the indicated scales, men achieved higher average results. There were no significant differences in accepting, expressing and using emotions on action scale (AKC) and empathy scale (EMP) (Table 1).

Table 1. Mean spectral median frequency differences between women and men sport climbers in PKIE Questionnaire

PKIE scales	Women		Men		t	p
	M	SD	M	SD		
AKC	3,00	1,773	4,00	1,402	-1,858	0,069
EMP	5,00	1,474	5,00	1,337	0,092	0,927
KON	5,00	1,194	7,00	1,358	-3,230	0,002*
ROZ	5,00	1,530	6,00	1,213	-2,338	0,023*
PKIE (general)	5,00	1,512	6,00	0,964	-2,851	0,006*

\* statistically significant difference ( $p < 0,05$ )

## DISCUSSION

According to our results, male climbers make better use of their emotions to solve emerging problems. This manifests itself in the awareness of one's emotions, their causes and effects. Moreover, male climbers do not have the problems with revealing and controlling feelings in specific situations and understanding the emotions experienced by other people. In comparison to female, male climbers are capable of better control of their own emotions and higher awareness of what emotional states are required to achieve sport success. Better understanding, controlling, and appropriate naming of emotional states by male climbers can explain differences shown in the presented research. Hence, these differences can be explained both by greater motivation and by the higher level of emotional intelligence that male athletes display in their style of coping with stress, focused on the task (14).

Based on our results, it is common for all climbers to present a low level of showing others their experiences and to later use the knowledge of their own emotional experiences and their consequences for future tasks. The described emotion control reflects the effectiveness of coping with stress and emotion occurring in climbing competitions (10). Hence, athletes rate stressful situations as less emotionally threatening, which is related to adaptation to sports participation stress (5, 15). Thus, adaptation through climbing may decrease tension and stress and minimize physical and cognitive impairment in sport climbers.

In the study of emotional intelligence of athletes, the impact of time spent on training and the frequency of training and length of training units should be considered, as high levels of

emotional intelligence are associated with one-on-one training sessions, endurance and conscientiousness (9, 16, 17). In presented study, the average climbing time was 6 years. Therefore, the high level of emotional intelligence of climbers could be the result of length of climbing activity. However, more research is needed to clarify the relationship between emotional intelligence, the amount, and the type of training (18). Moreover, the type of exercise, the quantity and quality of social contacts, and group processes influence the athlete's emotional experience (5, 19). For example, in contact and team sports, the high intensity of anxiety and anger is often observed. Thus, these athletes need to be aware of their emotions and develop emotional regulatory strategies (20). On the other hand, the sport performance achieved in climbing has an individual aspect. It results from self-control of the climber, resistance to stress, recognition of their emotions and effective coping with them. Therefore, athletes with high emotional intelligence prefer extreme sports, where the activity of the parasympathetic system responsible for effective regulation of emotions, emotional well-being, and optimal coping with them provides a successful sports experience (5, 21, 22).

## **CONCLUSIONS**

Male sport climbers used the recognition and understanding of emotional states to solve problems for success in climbing and characterize their higher level of overall emotional intelligence in a better way. Sport climbers of both sexes had average levels of acceptance of emotion and empathy. This means that climbers of both sexes were characterized by low levels of other emotional experiences and the use of emotional experiences in prospective activities.

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### **Conflict of interest**

The authors declare that they have no conflict of interest.