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Five-factor model personality traits in sport climbers

Milena Marczak¹, Michał Ginszt²

¹General Psychology Department. Institute of Psychology, Maria Curie Skłodowska
University of Lublin, Poland

²Chair and Department of Rehabilitation, Physiotherapy and Balneotherapy, the Medical
University of Lublin, Poland

Corresponding author: Michał Ginszt

Address:

Magnoliowa 2

20-143 Lublin, Poland

+48602533723

michal.ginszt@umlub.pl

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ABSTRACT

Background: Success in sport climbing depends both on physiological and psychological factors. Personality, a psychological factor influencing daily functioning, is connected with sport activities such as the choice of discipline and the approach to workout. Personality also affects athletic performance, emotional balance during sport activity and gaining new sports experiences.

Aim: The aim of this study is to compare the personality 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 Big Five Personality Inventory (NEO-FFI) in Polish adaptation. The questionnaire consists of 60 assertive statements, the truthfulness of which is assessed by the investigator on the five-point scale Neuroticism, Openness to experience, Conscientiousness, Agreeableness, and Extraversion.

Results: The results showed there were significant differences between the two groups on the Openness to experience and Agreeableness scales. There were no significant differences in Neuroticism, Conscientiousness and Extraversion scales.

Conclusions: Male sport climbers were more liberal in views and experience, whereas female sport climbers were more competing. Sport climbers of both sexes had high levels of emotional balance and extraversion, and the average level of conscientiousness.

INTRODUCTION

Personality is an important factor examined by psychologists in relation to sport activity, athletic predisposition and the planning of sports training. It is defined as the totality of psychic characteristics influencing patterns of thinking, feeling, and behavior (1). It affects the choice of sports: individual, team, or extreme sport discipline. Sport participation may, in turn, influence personality development. Sport climbing, selected to be the part of the next Summer Olympic Games Tokyo 2020, is an extreme sport discipline, which can be performed indoors in climbing gyms and at the natural rock. Success in sport climbing depends both on physiological and psychological factors (2). Most of the studies are focused on determining somatic features, body proportions, and physical fitness of sport climbers, describing the characteristics of physical predispositions for practicing this extreme sport and its effect on physiological features and climbing injuries (2-9). Researchers were also interested in psychological factors, such as personality, emotions, motives, cognitive processes, social factors, self-esteem, and self-efficacy, which can influence the climbing activity (10-14). However, there is a lack of studies on the personality models in male and female sport climbers.

The aim of this study is to compare the personality traits in male and female sport climbers.

MATERIALS AND METHODS

We examined 60 sport climbers (30 men, 30 women) aged 23 ± 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 Big Five Personality Inventory (NEO-FFI) in Polish adaptation (15). The questionnaire consists of 60 assertive statements, the truthfulness of which is assessed by the investigator on the five-point scale: Neuroticism, Openness to experience, Conscientiousness, Agreeableness, Extraversion.

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 Openes to experience and Agreeableness scales. Men achieved higher average results on the indicated scales. There were no significant differences in Neuroticism, Conscientiousness and Extraversion scales (Table 1).

Table 1. Mean spectral median frequency differences between women and men sport climbers in NEO-FFI personality test

* statistically significant difference ($p < 0.05$)

| Personality traits | Women | | Men | | t | p |
|------------------------|-------|-------|------|-------|--------|--------|
| | M | SD | M | SD | | |
| Neuroticism | 1,50 | 0,509 | 1,00 | 0,777 | 0,001 | 1,000 |
| Openness to experience | 1,00 | 1,028 | 2,00 | 1,305 | -2,528 | 0,014* |
| Conscientiousness | 2,50 | 1,752 | 3,00 | 1,921 | -0,140 | 0,889 |
| Agreeableness | 3,00 | 1,762 | 4,00 | 1,730 | -2,662 | 0,010* |
| Extraversion | 6,00 | 2,399 | 6,50 | 1,576 | -0,064 | 0,950 |

DISCUSSION

Personality is one of the factors that contribute to high sports scores (16). It is also associated with the choice of a discipline. Personality traits such as extraversion of neuroticism and conscientiousness are correlated with physical activity (17-19). The results of the research on

athletes show that there is a difference between openness to experience and compromise between men and women. The intensity of the indicated factors may be related to the discipline of the sport being practiced (20). For example, by sport climbing, adaptation of physiological and psychological characteristics to the specific conditions of this sport can be made in both women and men. People who practice extreme sports are characterized by high levels of extraversion and emotional stability with low neuroticism being also typical for this group (16). Moreover, sport climbers are characterized by high extravagance and tendency to take risks (21). These features in sport climbing are related to making decisions in situations that threaten physically and cause mental discomfort. On the other hand, a lower level of openness to experience and willingness to conciliate among the women surveyed, indicates their conservative behavior in terms of climbing techniques, problem-solving techniques, and the adoption of proven sports behaviors. At the same time they remain reluctant to implement innovative solutions. Female climbers are also more geared towards sporting rivalry, which manifests itself in less compromise.

In summary, according to the results of the study, sport climbers are characterized by low levels of neuroticism and high degree of extraversion, which can result from extreme sports personality predispositions. The intensity of these factors is similar both in men and women practising sport climbing. Low levels of neuroticism and high degree of extraversion is characteristic for people who practice extreme sports, which was previously investigated in literature and is in accordance with our results. Differences in gender personality traits were found in two variables: Openness to experience and Agreeableness, where women were less affected. However, studies need to be continued to investigate the impact of personality traits on the sport level of men and women engaged in sport climbing.

CONCLUSIONS

Both male and female sport climbers reported low neuroticism and high levels of extraversion and the average level of conscientiousness. Male sport climbers were more liberal in views and experience than female, whereas women athletes were more competing than men.

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Conflict of interest

The authors declare that they have no conflict of interest.

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