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Coping strategies, perception of sport risk and satisfaction with life in men and women practicing extreme sports

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Authors' Contribution:

A Study Design
B Data Collection
C Statistical Analysis
D Data Interpretation
E Manuscript Preparation
F Literature Search
G Funds Collection

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abstract

Background: Few studies concern strategies for coping with stress in people who practice extreme sports. The goal of the current work is to analyse the relationships between strategies for coping with stress used by male and female extreme athletes, perception of threat associated with their sport, and their satisfaction with life.

Material and methods: The sample consisted of 144 athletes, 55 females and 89 males, who have practiced extreme sports for at least 2 years. Participants completed the Brief COPE questionnaire, the SWLS questionnaire, and a survey to collect sociodemographic data and information about participants' perceptions of threats associated with their sport discipline. Student's t-test, r-Pearson's correlation and multiple regression analysis were performed.

Results: Significant relationships were found between the use of certain strategies for coping with stress and the assessment of risks associated with extreme sports in both men and women. Only in the case of men were relationships observed between the coping strategies used and satisfaction with life. Women were more likely to use emotional and instrumental support and less likely to use humor than men.

Conclusions: Strategies for coping with stress are associated with risk assessment and, among men, with sense of satisfaction with life.

Key words: sport psychology, health, well-being, risky behaviours, perception of threat.

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INTRODUCTION

Participation in extreme sports is an important field of scientific inquiry related to many aspects of human life. It is a particularly interesting phenomenon because it is possible to look at people who engage in highly risky forms of physical activity from two different perspectives. On the one hand, extreme athletes are often accused of being reckless and exposing themselves to needless threat [1, 2], while on the other hand, research shows that such individuals make every effort not to lose control over situations in which their lives are at risk [3]. Treading a fine line between health and serious injury requires both extraordinary physical ability and the belief that one is able to overcome the stress which inevitably accompanies such activities. Thanks to their sense of agency, people who undertake dangerous forms of physical activity believe that they control their stress and emotions instead of letting their emotions and stress to control them. Dean [4] states that extreme athletes who have high levels of self-control assess the risks associated with extreme sports as lower than do those with lower levels of self-control. Martha and Laurendeau [5] have shown that individuals who do extreme sports assess the riskiness of their discipline as higher than individuals who do moderately risky sports. This may indicate that people who engage in risky forms of physical activity realistically assess the associated threats, contrary to common perceptions. Moreover, risk assessment is negatively correlated with the assessment of one's own abilities to manage dangerous situations and is positively correlated with number of injuries [5].

Up to now, research concerned with extreme sports usually concentrated on the temperamental characteristics of the participants, with particular attention paid to their need for stimulation [6–10]. Numerous scientific publications report that, despite the fact that extreme athletes have significantly higher levels of need for stimulation in comparison to non-athletes or individuals who engage in less risky physical activity, they are not a homogenous group in terms of temperament. Differences in levels of sensation seeking stem from different motivations for experiencing intense emotions, feeling the influence of adrenaline, and overcoming barriers [11, 12]. It is also increasingly popular to analyse their goals regarding a sense of well-being and emotion regulation.

Emotion regulation in the context of extreme sports is understood as observing and influencing emotional states with the intention of maintaining or changing the intensity of emotions and prolonging or shortening the currently experienced emotional state [6, 13]. Thus, the risky actions undertaken by extreme athletes have the very important function of providing an optimal level of stimulation and regulating one's emotions in a socially acceptable manner [14]. Barlow, Woodman and Hardy [15] indicate that engaging in extreme sports allows one to better cope with anxiety through externalisation and locating it in a concrete, existent threat. In turn, Castanier, Scanff and Woodman [6] conclude that the strategy of escaping from self-awareness during mountain climbing results in significant changes in the intensity of negative emotions, especially decreases in levels of anxiety. This explains the difficulties in coping with emotions during lengthy intervals between expeditions that are frequently reported by Himalayan mountaineers [16]. Moreover, Woodman, Cazenave and Scanff [17] suggest that extreme sports are more attractive to individuals with high levels of anxiety because they give them a chance to manage and control their anxiety. It could, therefore, be assumed that one of the main motivations

of extreme athletes is emotion regulation, which leads to an increase in a subjective sense of satisfaction with life through reducing negative affect [18].

It ought to be added that despite the fact that research indicates the existence of a significant relationship between emotion regulation and engaging in sport disciplines characterised by high risk, studies rarely investigate the individual strategies used by extreme athletes for coping with the stress which is intrinsic to such activities. In the classic approach proposed by Lazarus and Folkman [19], coping with stress serves two functions: regulatory (concentrated on emotions) and instrumental (concentrated on the problem). This classification was later complemented by adding a style based upon avoidance [20]. Based on the above conceptions, Carver, Scheier and Weintraub [21] created a model which includes over a dozen coping strategies which may constitute both relatively stable strategies of coping in difficult situations and ways of relevant coping in particular, concrete events. Men and women assess the risks associated with their sport disciplines differently, depending on their coping strategies.

The sense of satisfaction with life in psychology is not only associated with hedonist experiences of pleasure and joy. It is also of a eudaimonic character, i.e. deriving satisfaction from a fulfilled life based on self-realisation [22]. It may also be associated with the pursuit of transgressing boundaries [23], which is often the nature of the feats of extreme athletes [24]. According to Seligman [25], the sense of satisfaction with life is composed of the following factors: positive emotions; engagement; relationships; achievement; and meaning. It should be added that Ryff and Singer [26] note that the life of a human is torn between pursuit of happiness and the awareness of one's mortality. This paradox may be observed in individuals who do extreme sports, providing one with extraordinarily intense emotions, as well as deeper reflections regarding life and death.

It cannot be ruled out that the aforementioned mechanisms of coping with stress play a crucial role in distancing oneself from thoughts about mortality. This is why, from the point of view of the current work, it is important to see in what way coping strategies used by extreme athletes are associated with a sense of satisfaction with life. Thus, the first aim of this study was to identify the differences in strategies for coping with stress, assessment of the risk associated with extreme sports, and levels of satisfaction with life between the surveyed men and women. The second aim was to identify the relationships between coping strategies, athletes' gender, and the perceived risks associated with extreme sports. The third goal was to identify in what ways coping strategies used by men and women are associated with a sense of satisfaction with life.

Thus, the following hypotheses were examined:

1. Men and women assess the risks associated with their sport disciplines differently, depending on their coping strategies.
2. Sense of satisfaction with life is associated with coping strategies used by extreme athletes.

MATERIAL AND METHODS

PARTICIPANTS

The sample was selected using purposive sampling: having practiced extreme sports regularly for at least 2 years was the inclusion criterion. Sports

traditionally considered to carry high levels of risks were qualified as extreme, in line with the theoretical typology proposed by Muszkiet and Gembiak [27] as well as by Mynarski and Veltze [28]. Moreover, the criterion for considering a given sport as extreme is determined by insurance companies, which classify certain forms of activities as extreme. A total of 144 extreme athletes took part in the study, including 55 women aged between 17 and 47 ($M = 23.85$, $SD = 5.78$) and 89 men aged between 17 and 41 ($M = 24.11$, $SD = 4.03$). Among the participants, there were 31 parachuters, 24 individuals who practice watersports (kitesurfing, windsurfing, wakeboarding, freediving), 23 who practice urban extreme sports (BMX, roller skating, extreme scooter, skateboarding), 26 who practice motocross and downhill mountain biking, and 36 who practice parkour.

TOOLS

The Polish adaptation of the Brief COPE questionnaire by Carver [29, 30] was used to define participants' stress coping styles. The split-half reliability of the Polish adaptation of the tool is 0.86 (Guttman's coefficient: 0.87). The validity of the tool is satisfactory. The Polish version of the questionnaire consists of 28 items, which correspond to 14 strategies for coping with stress: active coping, planning, positive reframing, acceptance, humour, religion, use of emotional support, use of instrumental support, self-distraction, denial, venting, substance use, behavioural disengagement, and self-blame. The Satisfaction with Life Scale (SWLS) by Diener and Emmons [31], in its Polish adaptation by Juczyński [32], was used to assess the level of satisfaction with life. A participant assesses their life on a five-level Likert scale. Five items give a total score which is recalculated into an overall score for satisfaction with life. The Polish adaptation of the tool has a reliability assessed with Cronbach's alpha equal to 0.81, and a Cronbach's alpha of 0.87 for the original version.

A questionnaire was designed to describe participants' engagement in extreme sports; it included questions regarding the frequency of engaging in a given discipline, assessments of threats associated with engaging in the discipline (on a scale from 1 to 7), as well as the years of experience in the given discipline.

PROCEDURE

Participation in the study was anonymous and the participants gave the written consent to take part in the study. Subjects were asked to fill-in paper questionnaires. The whole procedure took approximately 20 minutes.

STATISTICAL ANALYSIS

Statistical analysis was conducted using the Statistica 12 package for Windows (Student's *t*-test, *r*-Pearson's correlation, multiple regression analysis).

RESULTS

The first step of the analyses was to assess the differences between men and women in their assessment of the frequency of using given strategies for coping with stress. Women were more likely than men to use the strategies of searching for emotional support ($t = 3.17$, $p = 0.002$) and instrumental support ($t = 2.39$, $p = 0.018$) in threat situations. Men reported using the strategy of relying on a sense of humour significantly more frequently than women did ($t = 2.28$, $p = 0.024$). Detailed information is presented in Table 1.

Table 1. Use of strategies for coping with stress

Frequency of using	Women		Men		Differences	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Active coping	2.05	0.64	1.98	0.61	0.73	0.469
Planning	2.07	0.73	1.87	0.74	1.60	0.111
Positive reframing	1.95	0.68	1.79	0.74	1.32	0.190
Acceptance	1.99	0.67	1.87	0.68	1.09	0.279
Humour	1.05	0.89	1.41	0.96	2.28	0.024
Religion	1.06	0.87	0.95	0.91	0.75	0.457
Use of emotional support	2.11	0.71	1.73	0.69	3.17	0.002
Use of instrumental support	1.89	0.66	1.62	0.67	2.39	0.018
Self-distraction	1.95	0.91	1.71	0.64	1.79	0.075
Denial	1.23	0.88	1.12	0.64	0.86	0.391
Venting	1.72	0.73	1.59	0.56	1.18	0.238
Substance use	0.89	0.90	0.98	0.81	0.64	0.525
Behavioural disengagement	1.05	0.70	1.00	0.81	0.34	0.732
Self-blame	1.08	0.76	1.19	0.73	0.81	0.417

No statistically significant differences were observed between men and women in levels of satisfaction with life; in both groups re-calculating the raw values into sten scores revealed that the participants' satisfaction with life was average ($M = 6.32$, $SD = 2.04$)

Similarly, no differences were observed in the assessment of risks associated with extreme sports. Women assessed them on the 7-level scale as $M = 4.96$, $SD = 1.09$ and men assessed them as $M = 4.94$, $SD = 1.39$.

The next step was to see in what way the use of certain strategies for coping with stress influences the participants' assessment of how dangerous their sports are. To this end, multiple regression was used. This revealed a number of factors which influence the assessment of threat. The model of these relationships was a good fit to the data for women: $F(14,40) = 2.16$, $R^2 = 0.43$, $p < 0.028$. Use of the following strategies for coping with stress influenced the assessment of threats associated with extreme sports: positive reframing ($\beta = 0.55$, $p = 0.001$); acceptance ($\beta = 0.46$, $p = 0.026$); and use of instrumental support ($\beta = 0.42$, $p = 0.048$). For men, the model was also a good fit to the data - $F(14,74) = 3.16$, $R^2 = 0.37$, $p < 0.001$ - but other strategies for coping with stress influenced the assessment of threat. These were: acceptance ($\beta = 0.26$, $p = 0.025$); use of instrumental support ($\beta = 0.59$, $p < 0.001$); denial ($\beta = 0.28$, $p = 0.018$); venting ($\beta = 0.26$, $p = 0.036$); and substance use ($\beta = 0.38$, $p = 0.008$).

Next, we examined the way in which using strategies for coping with stress translate into sense of satisfaction with life. Interestingly, the regression model turned out to be a good fit to the data for men: $F(14,74) = 3.14$, $R^2 = 0.37$, $p = 0.001$. The following strategies positively influenced sense of satisfaction with life: active coping ($\beta = 0.26$, $p = 0.030$); humour ($\beta = 0.31$, $p = 0.022$); and, surprisingly, self-blame ($\beta = 0.54$, $p = 0.001$). Two strategies, religion ($\beta = 0.31$, $p = 0.029$) and venting ($\beta = 0.25$, $p = 0.048$), were associated with decreased satisfaction with life.

DISCUSSION

Results suggest that there exists a significant relationship between coping with stress and perceptions of risk in extreme athletes, which was previously rarely of interest to researchers in the fields of sports psychology and sport science. It should be emphasized certain strategies for coping with stress are particularly associated with the assessment of threat in extreme sports. Use of instrumental support has different results in men and women. The more frequently women use this strategy, the higher their assessment of the risks associated with their sport discipline. In contrast, men who seek instrumental support underestimate the risks associated with their discipline. This result could be explained by the fact that women rely on strategies associated with seeking support more often than men do, which has been confirmed by previous research [33, 34]. Thus, concentrating on forming interpersonal relations through looking for instrumental and emotional support seems more natural to women, which is in line with the results of female students in a study conducted at a sports university [35]. It is possible that, for this reason, women assess the threats more realistically and do not feel the need to underestimate them in order to gain social approval. In contrast, men using the strategy of instrumental support act against the stereotype of how men should cope – i.e. active pursuit of the elimination of the stressor, which would also be in line with the results of the aforementioned study [35]. It is possible that when asking for help, they try to underestimate the threat associated with their discipline to preserve their image as strong and brave individuals. For women, the strategy that had the strongest relationship with assessment of threat was positive reframing – the more frequently they used this strategy, the lower they assessed the threats. Paying attention to positive aspects of risky events definitely influences assessment of them in terms of a challenge and not as a problem. As indicated by Nicholls, Levy, Carson, Thompson and Perry [36], using such strategies lowers the athlete's arousal, which can be subjectively perceived as a decrease in threat.

It is interesting that the influence of strategies for coping with stress on a sense of satisfaction with life was only observed in the group of men. The most surprising result was that the more often men use the strategy of self-blame, the more satisfied they are with life. Perhaps this could be explained by the influence of sense of control and agency, which were not measured in the current study. Barlow, Woodman and Hardy [15] suggest that this sense is one of the main motivations for doing extreme sports. Self-blame may thus act in two ways: on the one hand through taking responsibility for finding oneself in a difficult situation, and, on the other hand, by asserting the belief that 'life is what you make it' and that it is possible to control the consequences of one's actions. It may be that by using this strategy, athletes feel a sense of control and agency which, in turn, translates into a sense of satisfaction with life.

The gender differences in the frequencies of using different coping strategies among extreme athletes deserve attention. This may provide better understanding of behaviours which help athletes regain composure after partaking in a dangerous activity. In the future, it would be worth examining the ways in which athletes categorise engaging in extreme sports: as a challenge, a threat, harm, or a loss. Research on competitive athletes suggests that they consider competing to be a challenge, which results in increased effort [37]. It would be interesting to see if similar observations could be made for extreme athletes.

Women and men who practice extreme sports are characterised by the same average sense of satisfaction with life; however, only in men is satisfaction with life related to their coping strategies. Therefore, it would be worthwhile for future studies to examine the determinants of satisfaction with life for women who do extreme sports.

LIMITATIONS

The main limitation of this study is caused by the difficulty of measuring satisfaction with life. The first difficulty comes with the time of measurement – it is possible that even short break from practicing extreme sports could have influenced the way that the participants assessed their satisfaction with life. Taking this possibility into account, a longitudinal study should be designed to examine if satisfaction with life changes with regard to practice and participation schedule. Also, as Klym-Guba and Karaś [38] suggest, a multidimensional approach to satisfaction with life should be used, especially when taking to account eudaimonic wellbeing.

CONCLUSIONS

Men and women assess threats associated with extreme sports in a very similar way. Knowledge about the efficacy of coping strategies used by extreme athletes and the need to realistically assess the potential consequences of actions may be of use to sport psychologists working with athletes who practice high risk sport disciplines. Moreover, better understanding the relationship between coping strategies and wellbeing may help in looking on extreme sportsmen, who are often called “adrenaline junkies”, in more gentle way, underlining their individual strategies in coping with stressful events.

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