

# Stress in volunteer mountain rescue teams

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## Summary

The aim of the study was to present the sources of stress in mountain rescue teams, the preferred kind of coping and the level of the burnout syndrome in mountain rescue teams. CISS (Endler, Parker), MBI (Maslach) and Sources of Stress in Mountain Rescues Work Questionnaire (Basiaga-Pasternak, Pomykała) were used. Participants comprised 47 males from Bieszczady Mountain Rescue Team. Results show that the most stressful situations are connected with the rescuee's death or health damage. The most popular style of coping in the researched group is task-oriented. High professional stress level was found to be characteristic of rescuers who suffered from the burnout syndrome.

**Keywords:** Mountain Rescue, Stress, Coping with stress, Burnout Syndrome

## Introduction

The work of mountain rescue services is characterized by continual contact with traumatic events and, therefore, requires the ability to cope with stress. Work-related stress (organizational) is typical for many working environments, including mountain rescue. Rescuers' work often demands risking their health and sometimes even life. This labour group is considered among the most hazardous and stressful. As in the case of firefighters, mountain rescue almost every day find themselves in situations in which human life is at stake [Rząsowska, Fabryczewska 2007]. This kind of work is imbued with great responsibility for other people. As Szymuszko would put it [Matuszyk 2010, p. 164]: "To pin to one's sweater an emblem with a blue cross is to accept the increased responsibility – not only from the legal point of view, but also from the moral one." Responsibility, working on rotation basis which handicaps family life, contact with the injured or (even) dead, unfavourable atmospheric work conditions, external pressure (social expectations) are stressors experienced by rescuers on daily basis.

According to the model of organizational stress by Ivancevich and Matteson [Majewska, Noworol 1995] these are the intraorganizational stressors – including the following factors: physical (temperature), individual (amount of work and work overload, responsibility for others, role conflict, lack of work-perspectives), group (lack of unity, interpersonal conflicts, dissatisfaction with leader), organizational (faulty management style, unfavourable climate, controlling activities) – and extra-

organizational stressors, such as: family relations, country's economic crises, racial problems, too strong competition on the market. The body of psychological literature on the topic consists mostly of analyses concerning paramedics [Bartczak, Bartczak 2010], firefighters [Rząsowska, Fabryczewska 2007, Hetherington 2004] or police officers [Ogińska-Bulik 2003; Sigler, Wilson 1991; MacEachern, Jindal-Snape, Jackson 2011; Hetherington 2004]. It needs be noted that the group of mountain rescuers is no different when it comes to being exposed to negative consequences of stress (including the burnout syndrome), especially when combined with ineffective coping style.

There are many ways in which people deal with stress of both kinds – work-related and work-unrelated. According to Endler and Parker [as cited in: Strelau 2002, 2006] it is possible to distinguish three basic styles of coping: task-oriented (taking actions to solve the problem), emotion-oriented (typical of individuals who in crisis situation focus on themselves and their emotions) and avoidance-oriented (characteristic for individuals who evade thinking, experiencing and going through the situation) [Strelau 2002, 2006]. Task-oriented coping is considered to be the most beneficial and effective way of dealing with the problematic situation. Still, not everyone is able to cope efficiently. The reaction to stress depends on a group of intermediate factors, such as work, career, life-stress and individual differences. In their nature, the negative consequences of work-related stress may be physiological (influencing blood pressure,

and the levels of cholesterol, glucose or catecholamines). That, in turn, may lead to serious health setbacks [Dunnette, Hough 1992]. One of the specific consequences of inability to cope is the burnout syndrome.

Pursuant to Maslach [Maslach, Marek, Schaufeli 1998], the burnout syndrome is a complex of both physical and emotional exhaustion; its effects being negative self-esteem, negative attitude to work and decrease in the interest in patient's/client's problems [Maslach, Marek, Schaufeli 1998]. However, as stated in Cherniss [1980], the burnout syndrome is a prolonging, usually chronic work stress; requirements posed by workplace are exhausting and exceed resources available to an individual. The burnout syndrome is a three-phase process:

- emotional exhaustion (EEX) – one experiences somatic symptoms, feels physically tired out, the organism's immunity lowers;
- depersonalization (DEP) – one distances physically and psychically from one's client by treating them like objects;
- feeling of lack of personal accomplishment (PAC) – one experiences own competence and achievements as low/unimportant; a disposition to avoid new challenges at work occurs.

The burnout syndrome afflicts mostly individuals whose profession puts them in direct contact with other people – medical doctors, nurses, teachers. It may also touch emergency services, including mountain rescuers. As reported by Ogińska-Bulik [2003], the syndrome affects professionals who have to: stand up to unexpected/crisis challenges, make decisions under pressure, take responsibility for others' lives or health, be ready to provide help, work on rotary basis, or work too long hours [Brauchli, Bauer, Hämmig 2011, Leite 1991]. These are typical work conditions for mountain rescuers. Therefore, it seems worth taking a closer look at both organizational stress and level of burnout (which causes the quality of provided services to lower, what in turn can prove dangerous to the rescued) in mountain rescuers. Ruling out the main sources of stress in such cases could contribute to creating conditions to counteract stressors, and by that – to increasing the quality of the services.

## The aim of the study

The aim of the study was to determine the specifications of work stress of mountain rescuers. The inquiry regarded main stressors, coping styles in stressful situations, as well as the level of burnout in members of Bieszczadzka Grupa GOPR (Bieszczady Mountain Rescue Team).

### The following research questions were tabled

1. What situations related to carrying out rescuer's duty were the most stressful for members of BGGOPR (Bieszczadzka Grupa GOPR)?

2. What is the dominant coping style in the rescuers?
3. What is the relationship between levels of stress and the burnout syndrome in the group?

## Method

The research was conducted with the use of the Coping Inventory of Stressful Situations (CISS) by Endler and Parker in the Polish adaptation by Strelau, Jaworowska, Wrześniewski, Szczepaniak [2005]. It consists of three scales: SSZ – task-oriented style, SSE – emotion-oriented style, SSU – avoidance-oriented style, which divides into two subscales: ACZ – engaging in substitute activities and PKT – the search for social contacts. Participants are to grade (on a 5-degree scale) the frequency with which they engage in a particular activity in stressful situations. The questionnaire is characterized by high validity and reliability. Another tool was The Maslach Burnout Inventory; which comprises three subscales, one for each stage of burnout: EEX – emotional exhaustion, DEP – depersonalization, PAR – personal accomplishment. The survey form "The Causes of Stress at Work of Mountain Rescuers" by Sylwia Pomykała [2012] was also used. It contains twenty questions. All of them are answered on a 5-degree scale, by means of which participants mark the levels of stress caused by particular factors.

## Participants

The research was conducted on a group of 47 professionally active rescuers from BGGOPR. The age span was 24–67 years.

Participants were divided into two groups, based on the levels of stress measured by the survey form "The Causes of stress at work of mountain rescuers", the subscale "What levels of stress cause you the following factors".

The first group comprised highly stressed rescuers ( $\bar{x} = 71.33$ ); the second group consisted of rescuers with medium levels of stress ( $\bar{x} = 57.64$ ), while the last one gathered individuals scoring low on the stress scale ( $\bar{x} = 43.17$ ).

Obtained results were statistically analysed; the analysis of variance was used.

## Presentation of results

The analysis of results in Chart 1. shows that the most stressful factor for all the rescuers ( $\bar{x} = 3.59$ ) was "Failed rescue attempt which resulted in death of the rescuee". Twenty five per cent of the participants described it as high level of stress, 31.82 per cent considered the stress to be of medium level, while for 18.18 per cent the situation was lowly stressful. None of them marked it as very low level of stress.

For the situation "Being aware, that tourists' health and life depends on you" a slightly lower overall stress

level was observed ( $\bar{x}=3.48$ ). This factor was rated as highly stressing by 40.43 per cent of the group, while 17.02 per cent assigned it to a very high stress level; it was medium for 21.28 per cent, low – for 14.89 per cent and very low – for 6.38 per cent.

The third of the most stressful situations was “Being aware, that the loss of life, or permanent disability will negatively affect your family”. It was very stressful for 34.04 per cent; 19.15 per cent described it as highly stressful, and again as much (19.15 per cent) declared it to be of medium stress level. By 21.28 per cent of the rescuers it was seen as lowly stressful, and only 6.38 per cent considered it to be a source of very low stress.

For the whole group the least stressing factor was “Being aware, that after finishing the shift you may still be called to participate in a rescue operation”. Medium stress level for this situation was  $\bar{x} = 2.29$ . The largest percentage of participants (38.30 per cent) rated it as a very low source of stress. For 34.04 per cent it was only lowly stressful. 25.53 per cent considered it to be of medium stress level, and 2.13 per cent – as highly stressful. None of the participants deemed it to be very highly stressful.

The results for all analysed questions are shown in Chart 1, below.

Subsequent analyses are related to preferred styles of coping in the investigated group, as well as to the relationship between the style of coping, and the level of stress and burnout.

Repeated measures ANOVA showed that there is a diversification on the level of particular coping styles ( $F_{2,92} = 103.61; p < .001$ ). Conducted planned compari-

sons uncovered that among the rescuers the task-oriented coping was predominant ( $F_{1,46} = 208.48; p < .001$ ). This is shown in Graph 1.

Repeated measures ANOVA did not find a significant relation between stress level and preferred coping style ( $F_{4,88} = 2.022; p = .098$ ). In all three groups the predominating coping style was task-oriented (Graph 2).

The carried out analysis of variance allowed to demonstrate statistically significant relationships of stress level with emotional exhaustion (EEX) ( $F_{2,44} = 13.57; p < .001$ ) and depersonalization (DEP) ( $F_{2,44} = 12.35; p < .001$ ); no significant relationship with personal accomplishment (PAR) was found ( $F_{2,44} = .58; p = .566$ ). The results are depicted in Chart 2.

Planned comparisons revealed, that the group experiencing high stress was characterized by the highest level of emotional exhaustion ( $F_{1,44} = 27.13; p < .001$ ). Also, the group of high stress presented the highest level of depersonalization ( $F_{1,44} = 24.61; p < .001$ ). Furthermore, planned comparisons showed that the group of the highest stress had the lowest results in personal accomplishment ( $F_{1,44} < .001; p = .987$ ); as showed on Graphs 3 and 4.

## Discussion and conclusions

The obtained results show, that to the surveyed mountain rescuers the most stressful situations were those related to taking injuries and dying of the rescuee. This is probably caused by the fact, that human life is of paramount importance to every man, and that the specific character of

**Chart 1.** The level of rescuers' stress in separate situations, as measured by separate questions from the survey form “The Causes of Stress at Work of Mountain Rescuers”.

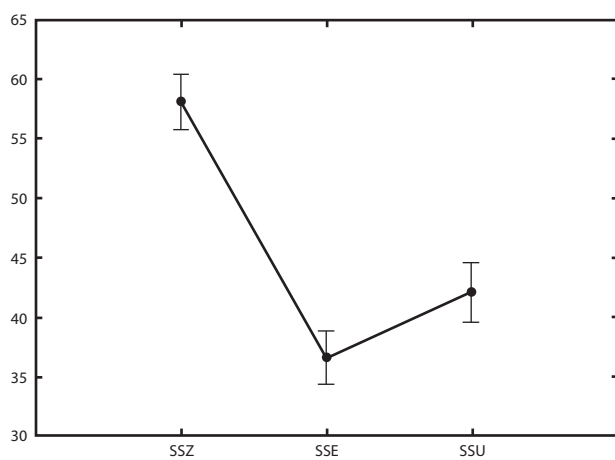
Question	Stress level	% of participants to have marked the answer				
	$\bar{x}$	very low	low	medium	high	very high
Rescuee dies due to rescue operation failure	<b>3,59</b>	0,00%	18,18%	31,82%	25,00%	25,00%
Operation of retrieving a dead body	2,82	13,64%	31,82%	29,55%	13,64%	11,36%
Health damage during rescue operation	3,25	0,00%	21,28%	42,55%	25,53%	10,64%
Being aware, that tourists' health and life depend on you	3,48	6,38%	14,89%	21,28%	40,43%	17,02%
Difficult weather conditions during rescue operation	2,81	2,13%	40,43%	38,30%	17,02%	2,13%
Participating in an operation with a rescuer in whom you have lower professional confidence	3,15	2,13%	25,53%	42,55%	21,28%	8,51%
Being aware, that the loss of life, or permanent disability will negatively affect your family	<b>3,46</b>	6,38%	21,28%	19,15%	34,04%	19,15%
Tourists disregarding the dangers of Bieszczady Mountains	3,04	17,02%	23,40%	23,40%	21,28%	14,89%

Underestimating the rescuer's work by others	2,81	17,02%	34,04%	25,53%	10,64%	12,77%
Insufficient funding for Bieszczady Mountains Rescue Team	3,19	14,89%	19,15%	31,91%	14,89%	19,15%
Conflicts with other rescuers	2,75	12,77%	40,43%	25,53%	19,15%	2,13%
Lack of sense of security during shift / on duty	2,71	17,02%	36,17%	25,53%	21,28%	0,00%
False alarms	2,65	21,28%	38,30%	23,40%	10,64%	6,38%
Being aware of your worse psycho-physical condition while on shift / duty	3,02	10,64%	27,66%	38,30%	19,15%	4,26%
Personal problems which make it difficult to focus or rescuing	2,92	10,64%	31,91%	40,43%	14,89%	2,13%
Underestimating of your work by other co-workers	3,13	4,26%	36,17%	31,91%	25,53%	2,13%
Weak integration of the group	3,06	12,77%	27,66%	34,04%	21,28%	4,26%
The influence of work on your family life	3,23	6,38%	23,40%	46,81%	19,15%	4,26%
Lengthy brooding over failed operations	2,69	23,40%	31,91%	31,91%	12,77%	0,00%
Being aware, that after finishing the shift you may still be called to participate in a rescue operation	<b>2,29</b>	38,30%	34,04%	25,53%	2,13%	0,00%

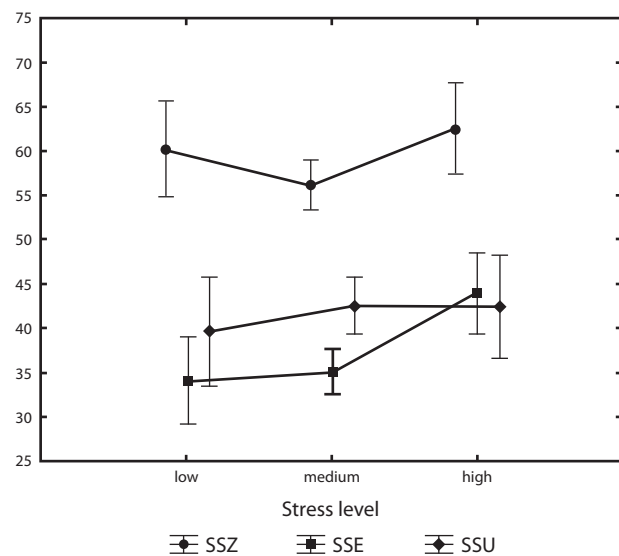
mountain rescuers work makes it a priority to provide help to other people. "Rescuer has to stand up to very high social expectations for this profession has been deemed particularly humanitarian. As in the case of a medical doctor, the rescuer is required to accept the fact, that rescuee's well-being is the highest law" [Ryn 2001, p. 68].

The analysis of the data allowed to make the observation, that the most common coping strategy in mountain rescuers is the task-oriented one, irrespective of the declared professional stress level. This kind of work demands the ability to make quick – and often hazardous

– decisions. Rescuer's work in strongly task-oriented and involves following strict procedures on daily basis. Therefore, mountain rescuer has to act decidedly and focus on achieving the goal – since that often is what human life depends on. According to Smith [1999] there is a kind of generalization of training in coping. It seems possible, that regular exposure to difficult situations will increase the use of task-oriented coping in order to solve the problem at hand.



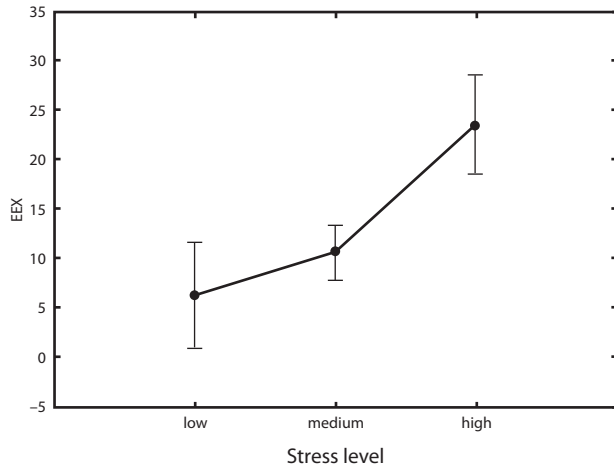
**Graph 1.** Task-oriented (SSZ), emotion-oriented (SSE) and avoidance-oriented (SSU) coping styles in the investigated group.



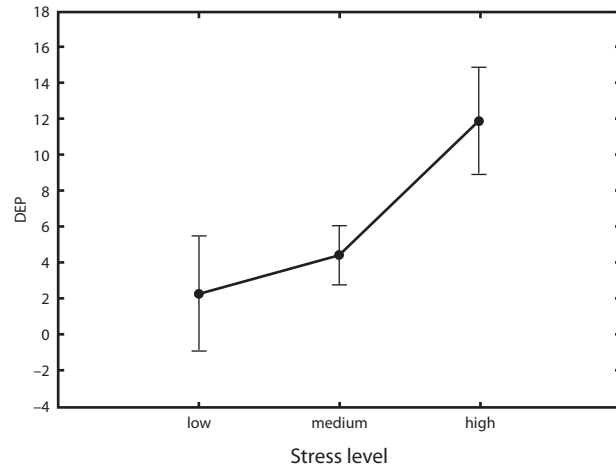
**Graph 2.** The stress level vs. coping style in surveyed mountain rescuers.

Chart 2. The level of stress vs. burnout.

	<i>Df</i>	<i>EEX – F</i>	<i>EEX – p</i>	<i>DEP – F</i>	<i>DEP – p</i>	<i>IPAR – F</i>	<i>IPAR – p</i>
Stress level	2	13.57	0.000	12.35	0.000	0.58	0.566
Error	44						



Graph 3. Stress level vs. emotional exhaustion.



Graph 4. Stress level vs. depersonalization.

The last issue addressed was the burnout syndrome. The use of active, task-oriented coping strategies decreases the level of burnout. At the same time, making use of the emotion-oriented coping is a predictor of higher stress level and burnout [Antoniou, Ploumpi, Ntalla 2013]. Just as Kennedy [2013] claims, the syndrome is related to a tendency to resort to emotion-oriented coping. The relationship between the intensity of stress and coping strategies was also observed [Hung C-Lun 2011]. At the same time, the presented research suggests that mountain rescuers who experience stronger professional stress are characterized by the burnout syndrome to the greatest extent. The highest professional stress was also predictive of emotional exhaustion and depersonalization. As can be seen, there is a connection between stress and burnout-related negative emotions. That is also in line with Łosiak [2007, p. 27]. In spite of that, in all the participants the task-oriented coping strategy was predominant. Interestingly, in none of them the relationship between stress level and negative self-accomplishment was found. This may be the result of social prestige and successful rescue (and search) operations, which are effectively performed tasks and as such provide “defence” from feeling lack of professional achievement. It is also possible, that the rescuers are passionate about their job, and that prevents them from burning out. In consonance with Michał Jagiełło [Matuszyk 2010, p. 164]: “It is true, that the work at mountain rescue cannot be a just a job, as any other – it has to be a vocation. Still, it is not easy for a rescuer to live by the truth each day.”

### Practical conclusion

As the research showed, the most stressful situations were: “Rescuee dies due to rescue operation failure”, “Being aware, that tourists’ health and life depend on you” and “Being aware, that the loss of life, or permanent disability will negatively affect your family”. Therefore, in providing psychological support for mountain rescuers, it seems essential to pay special attention to shielding them from such situations.

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