Journal for Security Management with Engineering Application · Volume 1 · Number 1 ·2025
Published online by the Regional Association for Security and Crisis Management (RASEC) https://jsme.rabek.org/index.php/jsme/home

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Peer review method: Double-blind

Original scientific article

DOI: https://doi.org/10.70995/jsme.v1iv.01

Received: 10.9.2025 • Accepted after revision: 14.10.2025 • Published: 31.12.2025

Pages: 4-25

EVALUATING MENTAL HEALTH STRATEGIES AND PSYCHOSOCIAL PREPAREDNESS IN DISASTER RESPONSE: LESSONS FROM THE TÜRKIYE EARTHQUAKE RESCUE MISSION 2023

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Abstract: Caring for the mental health of first responders is imperative because they are also vulnerable, taking into consideration the nature of their job, the frequency, and the intensity of work-related traumatic exposure. Establishing mental health care for first responders or adapting the present curriculum would avoid potential bad consequences for their mental health. This study examines the availability of comprehensive mental health care resources in Bosnia and Herzegovina, for first responders before intervention. The focus was made to document the emotions that arose during the execution of the tasks in an earthquake rescue mission in the Republic Türkiye in February 2023. The results show that structured and comprehensive measures to protect the mental health of rescuers and volunteers are limited or inconsistently applied across organizations. The revealed findings indicate that predeploying training in order to protect mental health and prevent the harmful effects of stressful situations does not correspond to the challenges they encountered during the rescue mission. The results of the research may contribute to the development of appropriate training and preparation practices to mitigate the negative psychosocial effects on rescuers and volunteers.

Keywords: First Responders, Mental Health, Türkiye Earthquake 2023, Psychosocial Preparedness, Disaster Response Training

1. INTRODUCTION

According to the Global Natural Disasters Report for 2021 (Govt. China, IFRC, NDRCC 2022), made by China Government together with International Federation of Red Cross

and Red Crescent Societies and National Disaster Reduction Center of China and published in October 2022, the total frequency of global natural disasters in 2021, compared to the average over the last 30 years (1991-2020), was 13% higher, with 81% lower in deaths, 48% less in the affected population, and 82% more in direct economic losses. When it comes to the kind of natural disaster frequency, report showed that the global flood disasters in 2021 were the most frequent, 48% more than the historic levels, causing 4,393 deaths, which was more than the death toll from other natural disasters but 35% less than the historical average of flood-related deaths; there were fewer strong earthquakes and their disaster losses were relatively small; the number of deaths from wildfires decreased, but the population affected rose by 219%. Regionally, Asia has seen the highest frequency of natural disasters in 2021, and Asia had the largest number of deaths due to those disasters. Moreover, this report showed that compared with developed countries, developing countries were more severely affected by natural disasters, mostly floods, storms, and extreme temperatures. (Govt. China, IFRC, NDRCC 2022)

The Republic of Türkiye, located in a geographical area prone to natural disasters, is third in the world in earthquake victims and eighth in total victims. Every year, the country experiences at least one earthquake with a magnitude of 5 on the Richter scale (AFAD 2024). To respond, the Presidency for Disaster and Emergency Management (Turkish: Afet ve Acil Durum Ionetimi Baskanlıgı - AFAD) organizes training in services such as saving life and property, health care, nutrition, accommodation, security, and social and psychological support. AFAD volunteers are trained in areas needed before, during, and after disasters. The strategic plan for 2019-2023 was prepared in collaboration with domestic and international humanitarian aid and disaster recovery institutions (AFAD 2020). AFAD aims to manage disasters efficiently by providing prepared materials for training personnel and psychosocial services (AFAD 2020). The strategic area focuses on efficient disaster management, aiming to meet the needs of personnel in training and psychosocial services through three activities: providing psychosocial services training, providing prepared materials, and ensuring activities for staff's psychosocial needs. By 2022, the total number of trained personnel and realized activities is expected to reach 140 (AFAD 2019). However, the total number of trained staff and activities implemented to achieve the strategic goal remained unknown during the earthquake.

The earthquake in the Republic of Türkiye in February 2023, was devastating and especially in Kahramanmarş and Hatay districts, causing significant material losses and resulting in over 47.000 deaths and 280.000 buildings that collapsed or were severely damaged (SBB 2023). The earthquakes triggered a series of other earthquakes, causing widespread damage and destruction in 11 districts. The Ministry of Security of Bosnia and Herzegovina reports that 22 members of the rescue team of the Republican Administration of Civil Protection of the Republic of Srpska (RACP RS), 42 members of the rescue team of the Federal Administration of Civil Protection of the Federation of Bosnia and Herzegovina (FACP FBiH), 10 members of the rescue team of the Department of Public Security of Brčko District of Bosnia and Herzegovina (DPS DB) and 167

members of the Mountain Rescue Services (MRS) from entire Bosnia and Herzegovina, have participated in rescue assistance in the Republic of Türkiye (МБ БиХ 2023), while 10 members of the Armed Forces of Bosnia and Herzegovina (AF BiH) were also involved in humanitarian missions to minimize the consequences of the earthquake in the Republic of Türkiye (МО БиХ 2023).

The main goal of the present study was to record the emotions of volunteers and responders while they perform their designated tasks for the mission. These emotional states, whether positive, negative, or neutral, play a critical role in influencing the psychological well-being of the subjects. The results reveal that rescuers and volunteers face significant challenges, with negative emotions impacting both their performance and overall well-being. These findings may determine the effectiveness of present mental health programs of work organizations in Bosnia and Herzegovina that sent their members on rescue missions. The results of the analysis indicate that work organizations only partially employ disaster risk management strategies to safeguard rescuers' mental health and avoid the negative effects of stressful events. The outcomes of this study should motivate the formulation of effective strategies for managing natural disasters across all three essential phases: preparedness, response, and recovery. Incorporating Psychological First Aid or Emergency Psychological Aid into initial training programs could significantly improve the psychological readiness of rescuers and volunteers.

This paper is structured and consists of six parts. At the beginning of the work there are an introduction and literature review. The third part contains search methods. In the fourth part, the findings of research conducted in the period March - June 2023 are presented. The fifth part refers to the discussion of the research results, while the conclusion is given at the end.

2. LITERATURE REVIEW

According to the World Health Organization (WHO), mental health is “A state of mental well-being that enables people to cope with the stresses of life, to realize their abilities, to learn well and work well, and to contribute to their communities. Mental health is an integral component of health and well-being and is more than the absence of mental disorder” (WHO 2024). In recent decades, one of the least appreciated aspects of public health has been mental health, which receives only a fraction of the resources and attention it requires and deserves. Furthermore, the Comprehensive Action Plan for Mental Health 2013–2030 has been ratified by WHO member states (WHO 2013). They pledged to accomplish world-wide goals to enhance mental health with an emphasis on strengthening research, information systems, community care, promotion and prevention, and leadership and management (WHO 2022). Initially adopted in 2013, the WHO Comprehensive Action Plan for Mental Health 2013–2020 was extended in 2019 to 2030 to ensure its alignment with the 2030 Agenda for Sustainable Development.

The largest review of world mental health in last decades was published in 2022 by the World Health Organization (2022). The WHO report recommends expediting the

implementation of the Comprehensive mental health action plan 2013-2030, addressing the significant underrepresentation of mental health in public health (WHO 2022). With the objective to reduce risks, promote resilience, and establish favorable conditions for mental health, promotion and prevention interventions have to determine the individual, social, and structural factors that determine mental health. Interventions could be tailored to be designed for a single individual, a particular group, or the entire population, while internationally accepted guidelines require the provision of mental health care for rescuers and volunteers.

Natural disasters can have significant consequences on mental health, affecting the mental well-being of affected populations. Non-governmental organizations, in collaboration with UN agencies, in last 30 years have developed projects to maintain mental health and provide psychosocial assistance. Manuals and guidelines have been published to reduce the negative impact of natural disasters on human health (OPSIC 2016; CORDIS 2017; IASC RG MHPSS 2017; PFA-CE 2017; Sphere Association 2018).

The Sendai Framework for Disaster Risk Reduction 2015–2030 strongly promotes health resilience (UNDRR 2015). By referring to health, as many as 39 times, health is presented as one of the key elements of the Sendai Framework. Out of a total of seven global goals, four have direct links to health and focus on reducing mortality, population well-being, early warning, and promoting the resilience of health systems (Reifels 2018). Mental health is defined in Priority 4 as a responsibility at the national or local level with a clear remit: Improve recovery schemes to provide psychosocial support and mental health services to all people who need them. Efforts to reduce disaster risks to mental health depend critically on the implementation of Disaster Risk Reduction and effective Disaster Mental Health strategies. That is, they depend on the effective integration of disaster risk reduction principles into existing national and local health domains and established fields of practice as defined in the Sendai Framework.

People are frequently badly impacted by traumatic events, which include natural and man-made calamities, including technology disasters and mass violence (Norris et al., 2002). Increased exposure to the direct aftermath of disasters is linked to a higher prevalence of post-traumatic stress disorder (PTSD); however, secondary traumatization can occur in first responders who have only interacted with trauma survivors and have not themselves experienced a traumatic event (Neria, Nandi, Galea 2008; Greinacher et al. 2019). The majority of research that is currently available on the effects of natural and man-made catastrophes on mental health focuses on the effects on immediate victims or trained rescue personnel (Bills et al. 2009; Thormar et al. 2010, 2013; Brooks et al. 2015).

Stressogenic factors impact first responders' psychological stability, reducing effectiveness and increasing the risk of PTSD. Despite this, mental health is frequently seen as a completely positive phenomenon characterized by emotions of contentment and a sense of control over one's surroundings (Waterman 1993; Lamers et al. 2011; Galderisi et al. 2015). Disaster response requires both logistical and psychological preparedness, as it significantly impacts response and recovery efforts, making it crucial to include

psychological preparedness in emergency response plans. Safeguard mental health by addressing local and global risks, promoting interventions across sectors to mitigate potential dangers and improve overall well-being (WHO 2024).

Even those with good mental health occasionally experience emotions such as sadness, illness, rage, or unhappiness; this is a normal aspect of living a fully realized life. It is hard to understand emotions because it is hard to classify emotions, define genres, identify first and subsequent events, and identify characteristics and measurement levels. Quantitative characteristics are recognized as a criterion due to the complex and inconsistent nature of defining emotions and moods in literature. Emotion theorists do not have a universally accepted definition of emotion. Contemporary theories of emotions strive for a comprehensive understanding, challenging the notion that reason and emotions exist as distinct systems. Instead, they question the traditional belief that emotions are characterized by intensity and brevity, while moods are comparatively smaller in scale and longer-lasting (Čorlukić, Krpan 2020).

Researchers categorize emotions into dimensions, focusing on valence and arousal. These dimensional models propose a shared neurophysiological system for all affective states. Notable models include the circumplex, vector, and Positive Activation – Negative Activation (PANA) models (Posner. Russell, Peterson 2005; Rubin, Talerico 2009). James Russell's circumplex model places emotions in a two-dimensional circular space with arousal and valence (Russell, Feldman 1999). Emotional states can vary in valence and arousal levels, often used to test stimuli. The vector model emphasizes vectors pointing in opposite directions to indicate emotion direction based on valence and arousal. The PANA model by Watson and Tellegen defines positive and negative emotions as distinct systems with arousal levels affecting valence (Warson, Tellengen 1985). Robert Plutchik's three-dimensional model arranges emotions in concentric circles based on basic-complex categories (Plutchik 1991). The PAD emotional state model by Mehrabian and Russell measures emotions using Satisfaction, Arousal, and Dominance dimensions (Mehrabian 1980).

Complexity and inconsistency in defining emotions and moods in literature necessitate quantitative criteria. The socio-constructivist perspective on emotions contrasts with individualistic psychological approaches by viewing emotions as socially constructed entities that influence social interactions, instead of solely individual, subjective physiological states. Debate over emotion classification is still present and researchers have approached the classification of emotions from one of two fundamental viewpoints: discrete vs dimensional viewpoints in research. Emotions are intense, fleeting affective experiences, while moods are lower intensity, long-lasting states (Čorlukić, Krpan 2020). Emotion is essential to human experience in general and to mental disorders in particular. Despite the significance of emotion, our current understanding of emotional phenomena is limited by the relative absence of objective approaches in scientific research (Gu et al. 2019). Emotions can be considered a measure of well-being, regardless of whether they are positive or negative (Frijda 1988). Feelings can give us clues about our surroundings:

feeling bad at work usually means we are facing difficulties, while feeling good is a sign of safety and can lead to more social interactions (Fredrickson 1998, 2000; Lazarus 1991). When thinking about how emotions play a part in adaptation, it is important to keep in mind that the main goal of adaptation is to encourage the most effective behavior based on biological and social needs (Lazarus, Folkman 1984). Also, it's important to note that for an organism to exhibit contingent behavior, it must satisfy two key conditions: detecting when environmental conditions impact its survival needs and responding in a way that enhances the chances of meeting those needs.

Negative emotions are states that are unpleasant or not desired. However, despite being unpleasant, they can still be beneficial (Ekman 1999). Negative emotions play a crucial role in assisting us with important tasks in our lives. Negative emotions are essential just like positive emotions in our lives. When it comes to our health, we simply need to understand how to control emotions in a productive manner. While positive and negative emotions have received substantial attention from researchers and psychology practitioners, there's another category of emotions that have been all but ignored in many circles: neutral emotions. Neutral emotions, on the other hand, involve a lack of strong affective response and include terms like indifference and surprise. These emotions often denote a state of emotional equilibrium or detachment. Neutral emotions, characterized by the absence of pain and suffering, may be considered positive, although they have no valence. They are often overlooked in emotional experiences, but they are an important part of the Buddhist perspective (Anālayo 2017). Despite the attention given to positive and negative emotions, neutral emotions remain largely ignored (Kennedy 2018).

Psychotic disorder is a widespread mental disorder, affecting one in eight people worldwide, while in emergencies one in five (22%) sufferers experience depression, anxiety, bipolar illness, schizophrenia or PTSD (WHO 2024). The voluntary and non-binding Sendai Framework for Disaster Risk Reduction 2015-2030 recognizes that the state has a primary role in disaster risk reduction and that this responsibility should be shared with local governments, the private sector, and other stakeholders. By signing the aforementioned Framework, the signatory states have effectively committed themselves to it. Rescue service organizations are responsible for their employees, while humanitarian organizations are responsible for volunteers (World Health Organization, War Trauma Foundation, & World Vision International 2011; Thormar et al. 2013).

Moreover, psychosocial support is crucial for safeguarding public health and promoting recovery following emergencies (Janković et al. 2025). Disasters frequently elicit intense emotional responses, including fear, anxiety, helplessness, and a perceived loss of control. For many individuals, these experiences are further exacerbated by the loss of loved ones or separation from family members. Such psychosocial impacts can be as debilitating as physical injuries, underscoring the importance of addressing them to foster both individual and community resilience. Rescuers exposed to extreme stress often experience anxiety, panic attacks, and heightened nervousness, amplified by repeated exposure to reminders of the traumatic event (Janković, et al. 2025). Rescue teams must

respond effectively without succumbing to panic or emotional distress. Besides theoretical and practical training, having a psychologist on hand during interventions is extremely helpful, with immediate intervention to avoid psychological stress (Horváth 2023). Rescuers must not only deal with physical challenges but also with the psychic stress of having to handle dead bodies and not being able to save all the victims. Good organizational planning—such as consideration of human factors, design of tools and processes, task pacing, work schedules, and reduction of psychosocial risks—reduces these stresses to a minimum. Risk assessments by employers must cover role-specific psychological hazards so that preventive measures can be taken. Reactions of individuals to traumatic incidents differ in that some experience immediate distress while others develop symptoms after a delay, necessitating long-term psychological support.

In RACP RS and MRS FBiH, capacities for developing measures are not systematically established but carried out by individuals through competent public health institutions. Training programs for supervisors, managers, and health professionals are essential for identifying vulnerable groups of employees needing additional support during traumatic events (Brooks et al. 2016). These programs aim to provide peer-to-peer support, with supervision groups led by professionally trained moderators (Малкина-Пых 2005). In order to provide evidence-based care, including psychological interventions and psychosocial supports, task-sharing requires mental health professionals to use their experience and skills while supervising, educating, and mentoring community providers and general health workers (Kestel 2022). The options are Psychological First Aid or Emergency Psychological Aid, bearing in mind that Psychological First Aid is a non-medical, non-professionalized activity performed by non-medical staff and volunteers in a vulnerable community (Bisson, Levis 2009; Kordić 2018), while Emergency Psychological Aid is a professional activity of psychologists and a unique independent field of psychological practice (Shoigu 2014). However, the Ministry of Defense and AF BiH have implemented a policy since October 2014 defining mental health protection and psychosocial assistance (МО БиХ 2014). Military psychologists exclusively implement basic methods, while specialist methods are implemented in health institutions.

3. METHODS

The purpose of this paper was to examine the availability of system resources for the protection of the mental health of work organizations in Bosnia and Herzegovina that sent their members on a rescue mission to minimize the consequences of the earthquake in the Republic of Turkey in February 2023. The primary goal was to document the volunteers' and rescuers' feelings as they were carrying out their assigned roles for the expedition. The feelings arose from carrying out the work successfully or unsuccessfully, were documented, and could provide justification for the effect on volunteers' and rescuers' psychological capacity. These findings may evaluate the efficacy of the current mental health programs of work organizations in Bosnia and Herzegovina that deployed its members on rescue missions. Taking into account that positive emotions are associated

with perceived benefits while negative emotions are negatively related to perceived benefits, these findings could also underscore the importance of positive emotions in understanding perceived benefits and emotional reactions. In order to accomplish the goal of this work, the research was performed with protection and rescue personnel of the Republican Administration of Civil Protection of the Republic of Srpska (RACP RS), volunteers from the Federation of Bosnia and Herzegovina's Mountain Rescue Service (MRS FBIH), and members of the Armed Forces of Bosnia and Herzegovina (AF BIH), who were involved in a rescue mission to minimize the consequences of the earthquake in the Republic Türkiye in February 2023.

The study sample consisted of 34 participants who were directly engaged in the international humanitarian mission following the February 2023 Türkiye earthquake and voluntarily agreed to participate in the research. The selection of respondents reflected the main operational components of the country's disaster response system, encompassing state, volunteer, and military sectors. The sociodemographic structure of the sample indicates a workforce that is predominantly male (94.1%), with only two female participants (5.9%), both serving within MRS FBiH. The age distribution shows that the largest proportion of respondents (74%) were between 31 and 50 years old, with the most represented groups being 31–35 and 46–50 years (each 20.59%). This indicates a predominance of mature, mid-career personnel combining operational experience with psychological stability.

In terms of work experience, the majority of respondents (29.41%) had between 11 and 20 years of professional service, while 41% reported 6–30 years, confirming a solid mid-career composition. Only one-fifth (20.59%) had less than five years of experience, representing early-career rescuers. The distribution of experience varied across institutions, with RACP RS showing a concentration of personnel with 6–10 years of service (37.5%), AF BiH with 11–20 years (40%), and MRS FBiH presenting the widest range, including senior rescuers with up to 40 years of engagement.

The educational structure was diverse. Respondents with secondary education (38.24%) formed the largest group, followed by those with university degrees (26.47%), and a smaller share with specialist (8.82%) and magister-level qualifications (11.76%). No respondents held doctoral degrees. RACP RS personnel predominantly had secondary education (75%), AF BiH participants showed higher academic qualifications (40% university, 20% magister level), while MRS FBiH had the most educationally varied composition, including master's degree holders.

Self-report questionnaires were created to assess state emotions, and the response list was signed using the scale sensitive to 14 different emotional states. The research questions were formulated in a specific way following the adapted Scale of Positive and Negative Experience (SPANE). The study measures the presence and frequency of positive, negative, and neutral emotions using 14 discrete emotions. A five-point Likert scale ranging from 1 [completely yes] to 5 [not at all] was used to determine the implementation of adequate measures to protect the mental health of rescuers and volunteers from

stressful situations, particularly in natural disasters, and to assess the impact of training on these situations.

A portion of the findings of a larger research project, which was implemented from March to June 2023, are presented to a sample of respondents: members of the protection and rescue forces of the Republican Administration of Civil Protection of the Republic of Srpska (RACP RS), volunteers from the Mountain Rescue Service of the Federation of Bosnia and Herzegovina (MRS FBiH), and members of the Armed Forces of Bosnia and Herzegovina (AF BiH) who were engaged in a rescue mission to minimize consequences of the February 2023 Türkiye earthquake. Members of the MRS FBiH were surveyed from MRS stations: Visoko, Tuzla, Zenica, Novi Grad - Sarajevo, Kakanj, Mostar and Travnik.

4. RESULTS

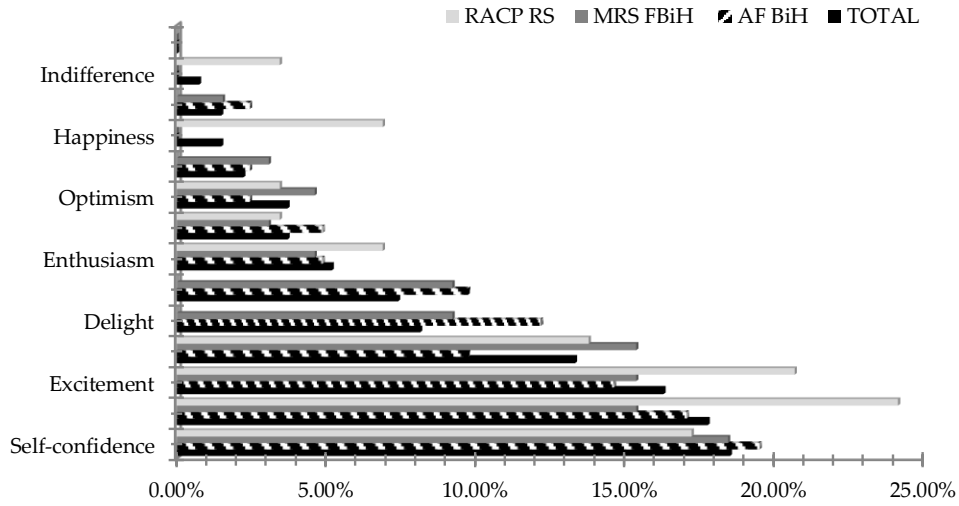
In total, 34 responders were included in this analysis. The research will be presented through six tables and two graphics. All results where shown for all responders together and for three main groups that where involved in response to the Türkiye earthquake 2023, and those are: the Republican Administration of Civil Protection of the Republic of Srpska (RACP RS), volunteers from the Mountain Rescue Service of the Federation of Bosnia and Herzegovina (MRS FBiH), and members of the Armed Forces of Bosnia and Herzegovina (AF BiH). The two graphics just show the same result in different and for some more understandable way, from the tables above them.

Answers to the first question were collected using a five-point Likert scale, ranging from 1 [completely yes] to 5 [not at all], with the goal of determining the implementation of appropriate measures and activities aimed at protecting the mental health of rescuers/volunteers and preventing the harmful effects of stressful situations before a natural disaster. Respondents' work organizations partially implement disaster risk management measures to protect rescuers' mental health and prevent stressful situations' harmful effects (Table 1). Three (8.82%) responders do not answer this question for unknown reasons.

Table 1. Question Q1 – Implementation of measures and activities through three phases of disaster risk management

Q1	In my work organization, to protect the mental health of rescuers/volunteers and prevent the harmful effects of a stressful situation, appropriate measures and activities are implemented before, during and after a natural disaster.							
	n	*%*	n	*%*	n	*%*	**N**	***%***
Completely yes	0	*0.00*	0	*0.00*	0	*0.00*	**0**	***0.00***
Mostly yes	1	*12.50*	5	*31.25*	0	*0.00*	**6**	***17.65***
Partially	3	*37.50*	3	*18.75*	7	*70.00*	**13**	***38.24***
Mostly no	1	*12.50*	3	*18.75*	1	*10.00*	**5**	***14.71***
Not at all	2	*25.50*	4	*25.00*	1	*10.00*	**7**	***20.59***
I do not know	1	*12.50*	1	*6.25*	1	*10.00*	**3**	***8.82***
	RACP RS		MRS FBiH		AF BiH		**TOTAL**	

Graph 1. Question Q2 – Emotions caused by successful in completing the task!



The Question Q2 – "Emotions caused by successful in completing the task!", was provided for all three main groups. Table 2. shows the frequencies of answers to the question Q2. The answers with higher frequency were satisfaction with score 25 (18.52%), pride with score 24 (17.78%), will and elan with score 22 (16.30%), and feeling of extra strength with score 18 (13.33 %).

Table 2. Frequency of answers to question Q2

Frequency of answers to the question Q2: Emotions caused by successful completing the task!								
	RACP RS		MRS FBiH		AF BiH		**F**	***%***
Surprise	0	*0.00*	0	*0.00*	0	*0.00*	**0**	***0.00***
Indifference	1	*3.45*	0	*0.00*	0	*0.00*	**1**	***0.74***
Elation	0	*0.00*	1	*1.54*	1	*2.44*	**2**	***1.48***
Happiness	0	*0.00*	6	*9.23*	4	*9.76*	**10**	***7.41***
Joy	1	*3.45*	3	*4.62*	1	*2.44*	**5**	***3.70***
Optimism	0	*0.00*	6	*9.23*	5	*12.20*	**11**	***8.15***
Satisfaction	5	*17.24*	12	*18.46*	8	*19.51*	**25**	***18.52***
Enthusiasm	2	*6.90*	3	*4.62*	2	*4.88*	**7**	***5.19***
Feeling of extra strength	4	*13.79*	10	*15.38*	4	*9.76*	**18**	***13.33***
Delight	0	*0.00*	2	*3.08*	1	*2.44*	**3**	***2.22***
Pride	7	*24.14*	10	*15.38*	7	*17.07*	**24**	***17.78***
Excitement	1	*3.45*	2	*3.08*	2	*4.88*	**5**	***3.70***
Will and elan	6	*20.69*	10	*15.38*	6	*14.63*	**22**	***16.30***
Self-confidence	2	*6.90*	0	*0.00*	0	*0.00*	**2**	***1.48***
					TOTAL		**135**	***100.00***

The absence of the emotion of *surprise* as a response was recorded. The options offered were not adequate for one (2.94%) respondent; the respondent gave the answer *None of*

the above, while 29 of them (85.29%) gave multiple answers (Table 3.). The 27 variants of emotions caused by successful completion of the task were recorded, with which the respondents combined two to nine (out of the 14 offered) answers to the situation.

Table 3. 27 variants of emotions caused by success in completing the task

Composition of individual answers in multiple answers to a question Q2: Emotions caused by successful in completing the task						
Label		**RACPRS**	**MRSFBiH**	**AFBiH**	**N**	***%***
V1	Enthusiasm, Feeling of extra strength, Will and elan, Excitement		1		**1**	***3.44***
V2	Satisfaction, Feeling of extra strength, Will and elan		1		**1**	***3.44***
V3	Satisfaction, Feeling of extra strength, Will and elan, Happiness		1		**1**	***3.44***
V4	Feeling of extra strength, Will and elan	1			**1**	***3.44***
V5	Pride, Will and elan	1			**1**	***3.44***
V6	Pride, Will and elan, Happiness			1	**1**	***3.44***
V7	Pride, Enthusiasm, Self-confidence, Feeling of extra strength, Will and elan	1			**1**	***3.44***
V8	Pride, Satisfaction	1		1	**2**	***6.89***
V9	Pride, Satisfaction, Joy		1		**1**	***3.44***
V10	Pride, Satisfaction, Joy, Feeling of extra strength, Will and elan, Happiness		1		**1**	***3.44***
V11	Pride, Satisfaction, Will and elan	1			**1**	***3.44***
V12	Pride, Satisfaction, Will and elan, Happiness, Optimism			1	**1**	***3.44***
V13	Pride, Satisfaction, Enthusiasm, Joy, Self-confidence, Feeling of extra strength, Will and elan, Excitement	1			**1**	***3.44***
V14	Pride, Satisfaction, Enthusiasm, Delight, Feeling of extra strength, Will and elan, Happiness, Excitement, Optimism		1		**1**	***3.44***
V15	Pride, Satisfaction, Enthusiasm, Feeling of extra strength, Will and elan		1		**1**	***3.44***
V16	Pride, Satisfaction, Enthusiasm, Joy, Delight, Will and elan, Happiness, Excitement		1		**1**	***3.44***
V17	Pride, Satisfaction, Enthusiasm, Joy, Feeling of extra strength, Will and elan, Happiness, Excitement, Optimism			1	**1**	***3.44***

V18	Pride, Satisfaction, Enthusiasm, Feeling of extra strength, Will and elan, Optimism			1	**1**	***3.44***
V19	Pride, Satisfaction, Delight, Feeling of extra strength, Will and elan, Happiness, Excitement, Optimism, Elation			1	**1**	***3.44***
V20	Pride, Satisfaction, Feeling of extra strength		1		**1**	***3.44***
V21	Pride, Satisfaction, Feeling of extra strength, Will and elan	1			**1**	***3.44***
V22	Pride, Satisfaction, Feeling of extra strength, Will and elan, Optimism		1	1	**2**	***6.89***
V23	Pride, Satisfaction, Feeling of extra strength, Will and elan, Happiness, Optimism		1		**1**	***3.44***
V24	Pride, Satisfaction, Feeling of extra strength, Will and elan, Happiness, Optimism, Elation		1		**1**	***3.44***
V25	Pride, Satisfaction, Feeling of extra strength, Optimism		1		**1**	***3.44***
V26	Pride, Satisfaction, Indifference	1			**1**	***3.44***
V27	Pride, Feeling of extra strength, Happiness		1		**1**	***3.44***
	TOTAL: 27 variants of multiple answers				**29**	***100.00***

When it comes to Question 3. (Table 4.) "Emotions caused by failure in completing the task", a report on the results is given in the lines that follow, detailing the feelings that were brought on by the task's failure to be completed. It was observed that first four emotions in this contest were: *sadness* with frequency of 15 responds (22.73%), *grief* with 13 (19.70%), *dissatisfaction* 9 (13.64%), and *disappointment* 7 (10.61%). Also, it was interesting to notice that none of the responders felt *indifference* or *self-doubt.*

Table 4. Frequency of answers to question Q3

Frequency of answers to the question Q3: Emotions caused by failure in completing the task!								
	RACP RS		MRS FBiH		AF BiH		**F**	***%***
Indifference	0	*0.00*	0	*0.00*	0	*0.00*	**0**	***0.00***
Self-doubt	0	*0.00*	0	*0.00*	0	*0.00*	**0**	***0.00***
Surprise	0	*0.00*	1	*3.13*	0	*0.00*	**1**	***1.52***
Fury	1	*6.25*	0	*0.00*	0	*0.00*	**1**	***1.52***
Fear	0	*0.00*	1	*3.13*	0	*0.00*	**1**	***1.51***
Shame	0	*0.00*	1	*3.13*	1	*5.56*	**2**	***3.03***
Feeling guilty	1	*6.25*	1	*3.13*	1	*5.56*	**3**	***4.55***
Concern	0	*0.00*	2	*6.25*	1	*5.56*	**3**	***4.55***
Anger	3	*18.75*	1	*3.13*	1	*5.56*	**5**	***7.58***
Weakness	3	*18.75*	2	*6.25*	1	*5.56*	**6**	***9.09***
Disappointment	0	*0.00*	4	*12.50*	3	*16.66*	**7**	***10.61***

Dissatisfaction	1	*6.25*	6	*18.75*	2	*11.10*	**9**	***13.64***
Grief	2	*12.50*	6	*18.75*	5	*27.78*	**13**	***19.70***
Sadness	5	*31.25*	7	*21.87*	3	*16.66*	**15**	***22.73***
						TOTAL	**66**	***100.00***

Graph 2. Question Q3 – Emotions caused by failure in completing the task

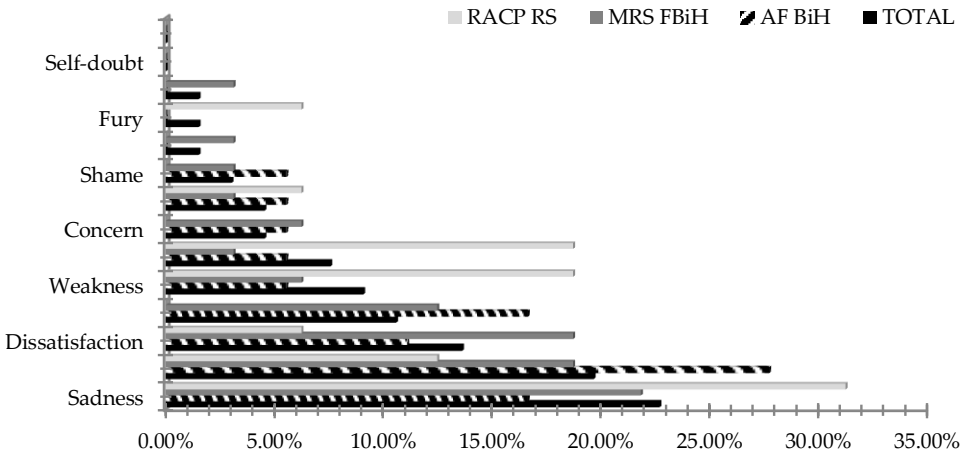


Table 5. shows that out of the respondents, 18 (52.94%) gave more than one response. Out of the 14 responses that might be made, the respondents gave two to eight answers to the 15 distinct emotional fluctuations that the task's unsuccessful completion caused. Two respondents (5.88%) reported *disappointment*, *dissatisfaction*, and *sadness* as unique emotions.

Table 5. 15 variants of emotions caused by failure to complete the task

Composition of individual answers in multiple answers to a question Q3: Emotions caused by failure to complete the task						
Label		**RACP RS**	**MRS FBiH**	**AF BiH**	**N**	**%**
V1	Grief, Dissatisfaction		1		**1**	***5.55***
V2	Grief, Sadness	1	2	1	**4**	***22.22***
V3	Grief, Sadness, Anger			1	**1**	***5.55***
V4	Grief, Sadness, Disappointment			1	**1**	***5.55***
V5	Surprise, Dissatisfaction		1		**1**	***5.55***
V6	Weakness, Grief		1		**1**	***5.55***
V7	Weakness, Grief, Concern, Dissatisfaction			1	**1**	***5.55***
V8	Weakness, Grief, Sadness, Anger	1			**1**	***5.55***
V9	Weakness, Sadness, Anger, Fury	1			**1**	***5.55***
V10	Weakness, Sadness, Anger, Feeling guilty	1			**1**	***5.55***
V11	Shame, Grief, Feeling guilty, Disappointment			1	**1**	***5.55***
V12	Shame, Weakness, Grief, Sadness, Feeling guilty, Dissatisfaction, Disappointment		1		**1**	***5.55***

V13	Fear, Grief, Sadness, Anger, Concern, Dissatisfaction, Disappointment	1	**1**	***5.55***
V14	Sadness, Concern, Dissatisfaction, Disappointment	1	**1**	***5.55***
V15	Sadness, Disappointment	1	**1**	***5.55***
	TOTAL: 15 variants of multiple answers		**18**	***100.00***

Next question (Question 4.) was related to the relationship between training and challenge. Formulation of this question was: "Training aimed at protecting mental health and preventing the harmful effects of stressful situations in my work organization corresponds to the challenges I encountered during the rescue mission in the Republic of Türkiye in February 2023.?" A five-point Likert scale was used (1 [completely yes] to 5 [not at all] for responses to the question to determine whether the training is aimed at protecting mental health and preventing the adverse impact of stressful situations on the status of rescue team members during the earthquake rescue mission in Türkiye. At this question most respondents think that training does not meet the challenges they encountered during the mission. (Table 6.). Few respondents (8.82%) think that the training primarily addresses the challenges they faced during the rescue mission in the Republic of Türkiye in February 2023. For unexplained reasons, up to 12 (35.29%) respondents are unclear about the answer to this question.

Table 6. Question Q4 – Relationship between training and challenge

Q4	Training aimed at protecting mental health and preventing the harmful effects of stressful situations in my work organization corresponds to the challenges I encountered during the rescue mission in the Republic of Türkiye in February 2023.							
	n	*%*	n	*%*	n	*%*	**N**	***%***
Completely yes	0	*0.00*	0	*0.00*	0	*0.00*	**0**	***0.00***
Mostly yes	1	*12.50*	2	*12.50*	0	*0.00*	**3**	***8.82***
Partially	1	*12.50*	3	*18.75*	4	*40.00*	**8**	***23.53***
Mostly no	1	*12.50*	1	*6.25*	2	*20.00*	**4**	***11.76***
Not at all	1	*12.50*	3	*18.75*	3	*30.00*	**7**	***20.59***
I do not know	4	*50.00*	7	*43.75*	1	*10.00*	**12**	***35.29***
	RACP RS		MRS FBiH		AF BiH		**TOTAL**	

5. DISCUSSION

5.1. Institutional Mental Health Preparedness and Disaster Risk Management

The finding that mental health protection measures are only partially implemented across organizations aligns with established disaster risk management frameworks, particularly the Sendai Framework for Disaster Risk Reduction, which emphasizes the importance of psychosocial preparedness as a core component of resilience (UNDRR 2015). The absence of comprehensive mental health measures before, during, and after disasters

suggests a structural gap in organizational preparedness, rather than an individual shortcoming of rescuers. This result is consistent with research indicating that emergency response systems in transitional and post-conflict societies often prioritize technical and logistical preparedness while neglecting psychological resilience (Alexander 2015; Paton, Johnston, 2006). The high proportion of respondents uncertain about the existence of such measures further supports the notion of insufficient institutionalization and communication of mental health policies within disaster response organizations.

5.2. Positive Emotions, Meaning, and Post-Event Functioning

The predominance of positive emotions—such as pride, satisfaction, enthusiasm, and a feeling of extra strength—following successful task completion can be interpreted through Fredrickson's Broaden-and-Build Theory of Positive Emotions (Fredrickson 2001). According to this theory, positive emotions broaden cognitive and behavioral repertoires, enhancing resilience, problem-solving capacity, and social bonding, all of which are essential in disaster response contexts.

Moreover, the strong presence of pride and satisfaction reflects what Antonovsky (1987) conceptualized as a high sense of coherence, particularly the dimensions of meaningfulness and manageability. Rescuers who perceive their actions as meaningful are more likely to endure extreme stress without immediate psychological breakdown. However, Antonovsky also emphasizes that sense of coherence must be supported by systemic resources, an element shown to be insufficient in the present study.

5.3. Emotional Impact of Failure and Moral Stress

The dominance of sadness, grief, dissatisfaction, and disappointment following unsuccessful task completion is consistent with the concept of moral stress and moral injury, increasingly discussed in disaster and emergency psychology (Litz et al. 2009; Williamson et al. 2021). Rescuers often experience distress not because of personal failure, but due to perceived inability to prevent harm or loss of life despite maximal effort.

The absence of indifference and self-doubt suggests sustained emotional engagement, which is generally viewed as adaptive in the short term but may increase vulnerability to cumulative stress and burnout if not addressed (Maslach, Leiter 2016). Research has shown that unresolved grief and guilt among emergency responders are significant predictors of long-term psychological difficulties, including depression and post-traumatic stress symptoms (Benedek et al. 2007).

5.4. Training Adequacy and the Stress–Coping Framework

The perceived mismatch between mental health training and real operational challenges supports Lazarus and Folkman's (1984) transactional model of stress and coping, which emphasizes that stress outcomes depend on the individual's appraisal of demands relative to available coping resources. When training is perceived as inadequate, operational demands are appraised as exceeding coping capacity, increasing psychological strain.

Furthermore, disaster preparedness literature emphasizes that scenario-based, experiential training is more effective than generic psychological education in preparing responders for extreme events (Everly, Mitchell 2008; Paton, Johnston 2006). The high percentage of respondents uncertain about training relevance suggests that current programs may lack contextual realism and fail to address mission-specific stressors, such as mass casualties, prolonged exposure, and cross-cultural operational environments.

5.5. Systemic Implications and Regional Context

Taken together, these findings reinforce the argument that psychological preparedness must be treated as a system-level responsibility, not an individual attribute. As noted by Hobfoll et al. (2007), effective disaster mental health systems should prioritize safety, calmness, self-efficacy, connectedness, and hope—principles that require organizational commitment and structured interventions.

The results of this study are consistent with broader regional evidence suggesting that protection and rescue systems in Southeast Europe face persistent gaps in psychosocial preparedness, particularly in integrating mental health into operational doctrine, training, and post-mission recovery (Alexander 2015; Paton, Johnston 2006). This underscores the need for institutional reforms that embed psychological resilience into disaster risk management frameworks.

5.6. Limitations and Future Research

The study's limitations include a relatively small sample size and reliance on self-reported emotional data, which may be influenced by recall bias or social desirability. Nevertheless, the inclusion of participants from state, volunteer, and military sectors strengthens the relevance of the findings. Future research should involve longitudinal designs, larger samples, and qualitative methods to further explore the long-term psychological effects of disaster response missions and the effectiveness of institutional mental health interventions.

6. CONCLUSIONS

This study demonstrates that while rescue personnel involved in disaster response missions exhibit significant psychological resilience and strong intrinsic motivation, institutional mechanisms for mental health protection remain insufficiently developed and inconsistently implemented. The findings clearly indicate that mental health preparedness within protection and rescue organizations is treated as a secondary concern, rather than as an integral component of disaster risk management.

Positive emotional responses following successful missions—such as pride, satisfaction, and enhanced self-efficacy—highlight the importance of meaning-making and professional identity in sustaining short-term psychological functioning. However, reliance on positive emotions and personal coping capacities alone is neither sustainable nor protective in the long term. The emotional burden associated with unsuccessful rescue outcomes, characterized by sadness, grief, and moral stress, underscores the cumulative

psychological risks faced by responders, particularly in the absence of structured post-mission support.

The perceived inadequacy of mental health training further reinforces the mismatch between operational demands and available coping resources. Generic or insufficiently contextualized training fails to prepare responders for the complex emotional realities of large-scale disasters, increasing vulnerability to stress-related outcomes such as burnout, moral injury, and post-traumatic symptoms.

Overall, the results support a systemic interpretation of psychological preparedness, emphasizing that resilience must be embedded within organizational structures, policies, and training frameworks. In the regional context of Southeast Europe, where disaster response systems often operate under transitional constraints, there is a clear need for institutional reforms that integrate mental health protection across all phases of disaster management—preparation, response, and recovery.

Strengthening psychosocial preparedness through evidence-based training, clear protocols, and accessible support mechanisms is essential not only for protecting the mental health of rescuers, but also for ensuring the long-term effectiveness, sustainability, and ethical integrity of disaster response systems.

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