

# Occupational stress associated with exposure to trauma in professional firefighters

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## ABSTRACT

Exposure to traumatic events is frequent in emergency services (Berger, Coutinho, Figueira, Marques-Portella, Luz, Neylen, Marmar, & Mendlowicz, 2012). Emergency care professionals like firefighters deal with death, the risk of death or threats to another person's physical integrity on a daily basis (Berger *et al.*, 2012). Experiencing traumatic situations can have negative consequences and affect the well-being and health of this professionals, as well as the quality of the emergency serviced provided. This study aims to explore occupational stress associated with exposure to trauma in professional firefighters. Data were collected through logbooks and interviews utilizing the Critical Incident Technique. Data collected was submitted to a thematic content analysis using NVivo 12 software. Results show that exposure to trauma in firefighters is a subjective and diverse experience with an accentuated negative dimension. In fact, negative emotions and negative consequences resulting from traumatic events have an impact more significant. Thus, when exposed to traumatic events, firefighters experience mainly *distress*. To manage these situations and the associated negative emotions, they often resort to emotion-focused *coping* strategies. This study contributed to a greater awareness of the importance of psychological intervention in these professionals, through the development of strategies and actions in secondary prevention to improve these professional's quality of life.

## INTRODUCTION

Since the firefighter's occupational environment is highly stressful, the interest in studying their mental health has been increasing (Carey, Al-Zaiti, Dean, Sessanna, & Finnell, 2011). In fact, emergency professionals such as firefighters as constantly exposed to traumatic incidents (Jonsson, Segesten, & Mattsson, 2003) with road crashes, children's injuries, suicides, and cardiac arrested being the most noteworthy (Marcelino, Figueiras, & Claudino, 2012). A portuguese study revealed that 98% of firefighters experienced at least one major adverse event in the year prior to the inquiry, 50% in the prior month, and 74% in the prior week (Carvalho & Maia, 2009).

According to the cognitive-motivational-relational theory of emotion (Lazarus, 1991), the cognitive evaluation that an individual makes of a traumatic event triggers an initial set of emotions that make him convolve certain *coping* strategies which mediate the newly generated emotions (Folkman & Lazarus, 1988a, 1988b). As such, the way an individual handles a particular situation is an important predictor of psychological *distress* (Brown, Mulhern, & Joseph, 2002).

With the aim to explore occupational stress associated with exposure to trauma in professional firefighters, we intend specifically to answer the following research questions: **RQ1.** What situations do firefighters experience as traumatic? **RQ2.** What is the emotional experience associated with traumatic events? **RQ3.** What *coping* strategies do firefighters use to manage traumatic situations? **RQ4.** What are the consequences of a traumatic situation's exposure in the professional practice of a firefighter?

## METHOD

### PARTICIPANTS

n=14

#### Selection criteria:

- Being a Portuguese professional firefighter;
- Having experienced one or more traumatic events throughout its career



### PROCEDURE

- Request for cooperation with several Fire Departments
- Logbooks' administration
- Contact with participants and information on the subject of the study
- Pilot interviews with spoken reflection in order to test the experiment
- Scheduling and interviews

### DATA COLLECTION AND ANALYSIS TECHNIQUES

The data were collected through the application of logbooks and interviews using the Critical Incident Technique. The information collected was subject to a thematic content analysis through NVivo 12 software.



## RESULTS AND DISCUSSION

Situations experienced as traumatic by firefighters	Sources
Accidents with children	5
Traffic accidents	5
Knowing the victim	4
Death of a co-worker	1
Suicides	4
To fear for one's own life	6
Other occurrences	4

These findings are in line with those of Tomaka, Magoc, Morales-Monks and Reyes (2017), Jacobsson, Backteman-Erlanson, Brulin and Hörnsten (2015) and Harris, Baloğlu and Stacks (2002) which identify as potentially traumatic accidents large-scale fires, explosions, drownings, suicides or attempted suicides, serious traffic accidents and occurrences with multiple victims, the death or injury of colleagues or acquaintances, and serious injury or death of children.

When experiencing traumatic situations, firefighters mostly experience negative emotions. Beaton and Murphy (1995) found that firefighters experience emotional reactions such as fear, sadness, anxiety, or anger as a result of exposure to traumatic events in the performance of their duty. These experiences generate *distress*. These results are in line with those of Regehr, Leblanc, Jelley, Barath and Daciuk (2007) who state that firefighters who have been exposed to traumatic events are at greater risk of developing vulnerability to stress and *distress* throughout their career.

Emotions experienced from traumatic events by firefighters			
	Sources	References (%)	Total (%)
Positive emotions	Relief	3 (5,27%)	14 (14,75%)
	Love	1 (1,05%)	
	Happiness	2 (3,16%)	
	Pride	4 (5,27%)	
Negative emotions	Anxiety	8 (17,89%)	67 (70,52%)
	Jealousy	0 (0%)	
	Quilt	4 (5,27%)	
	Envy	0 (0%)	
	Fear	9 (20,2105%)	
	Disgust	0 (0%)	
	Anger	8 (8,42%)	
	Sadness	11 (17,1789%)	
Shame	0 (0%)		
Mixed emotions	Compassion	5 (9,47%)	14 (14,73%)
	Hope	3 (4,21%)	
	Gratitude	1 (1,05%)	

Coping strategies used by firefighters do deal with traumatic situations			
	Sources	References (%)	Total (%)
Emotion-focused coping	Acceptance	6 (8,42%)	58 (61,05%)
	Moving away from the problem	9 (22,26%)	
	Distraction	5 (10,53%)	
	Faith and Religion	2 (4,21%)	
	Focus on positive aspects	5 (5,26%)	
Problem-focused coping	Play down the importance of the problem	5 (9,47%)	18 (18,95%)
		7 (18,95%)	
Social support focused coping	7 (16,84%)	16 (16,84%)	
Other coping strategies	2 (3,16%)	3 (3,16%)	

The participants resort more often to strategies focused on emotion, which meets the results found by Murta and Tróccoli (2007). One possible explanation is that the occupational context of the firemen often does not allow for a choice (Van der Klink, Blonk, Schene & van Dijk, 2001). In other words, sometimes traumatic situations are not changeable and there is nothing to do in order to reverse them.

The negative consequences of experiencing traumatic situations were more frequently referred to by firefighters than the positive consequences. A qualitative study by Capitaneo, Ribeiro e Silva (2012) shows that exposure to risk factors is reflected in negative consequences in the different areas of firefighters' lives.

Consequences of experience traumatic events by firefighters			
	Sources	References (%)	Total (%)
Positive consequences	Developing a self-defense	4 (11,22%)	30 (30,61%)
	Drawing lessons for the profession	6 (11,22%)	
	Drawing lessons for life	4 (8,17%)	
Negative consequences	Changes in sleep and dreams	4 (7,14%)	68 (69,39%)
	Emotional wear	7 (19,39%)	
	Negative memories	8 (26,53%)	
	Feeling of powerlessness and frustration	10 (16,13%)	

## CONCLUSION

The results show that exposure to trauma in firefighters is a subjective and diverse experience with a more negative than positive dimension. In fact, negative emotions and the negative consequences of traumatic events have a significantly more noticeable impact. Thus, when exposed to traumatic events, firefighters experience *distress*. To cope with these situations and the associated negative emotions, firefighters more often resort to emotion-focused *coping* strategies.

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