

A multilevel perspective in the study of occupational stress: the case of the Permanent Intervention Teams

Mariana Pinto, Filomena Jordão

Faculty of Psychology and Education Sciences, Porto University

ABSTRACT

In the field of Psychology, several models emphasize an individual view of stress that does not include the collective dimension. Some authors (e.g., Gomes & Puente-Palacios, 2018) argue that research on this phenomenon should consider both levels. Permanent Intervention Teams (PITs) are teams composed of five professional firefighters who work in intervention situations (Couto & Carvalho, 2012), which make these professionals more susceptible to occupational stress (Murta & Tróccoli, 2007). Thus, the objective of this investigation was to explore and describe the individual and collective occupational stress perceived by the firefighters of the PITs. This is an embedded multiple case study (Yin, 2018) in which the two PITs constitute the cases, the Humanitarian Associations of Volunteer Firefighters (HAVF) to which the PITs belong, represent the context and the firefighters are the units of analysis. The data were collected through documentary analysis and semistructured interviews to firefighters and were submitted to a content analysis, through Nvivo software 12. The results show that the firefighters of the two PITs, predominantly experience distress. We also found that strategies focused on controlling emotions stood out in both teams. Finally, we emphasize the negative impact at the personal, professional and family level that the occupational stress perceived in the exercise of this function has on the participants and teams. These results can be the starting point for future studies that address the multilevel perspective of occupational stress in different work teams and their effects on the health and well-being of the workers who compose them.

INTRODUCTION

Given the unique nature of their work, firefighters show high levels of occupational stress, as they perform demanding tasks and put their lives at risk to save and protect populations, exposing themselves to the physical, psychological and emotional dangers inherent in their activity dangerous or high pressure (Monteiro, 2008).

With the increase in the phenomenon of teamwork, it was found that there are meanings that are built collectively as the members of a team interact, communicate, exchange information and affections, verbalize feelings, moods and experience situations of working together, evidencing the relevance of the joint work. Thus, it is also important to look at stress as a collective phenomenon (Gomes & Puente-Palacios, 2018), explicitly considering the two levels of stress - the individual and the collective.

In the present study we used the holistic stress model (Nelson & Simmons, 2003; Nelson & Simmons, 2011; Simmons & Nelson, 2007) that emphasizes the individual approach, and research on collective occupational stress experienced by work teams, in order to deepen the experience of occupational stress perceived by firefighters from PITs. We intend specifically to answer the following research questions: **RQ1.** What are the sources of occupational stress (eustress and/or distress) perceived by firefighters in the PITs?; **RQ2.** What strategies (coping and/or savoring) are used by firefighters in PITs to manage the occupational stress?; and **RQ3.** What are the main consequences of occupational stress in these teams?

METHOD

PARTICIPANTS (n=10)

Selection criteria:

- Have worked at the PIT for at least 5 years;
- The PIT has been in operation for at least 5 years.

Age	Gender	Years as an PIT firefighter
<ul style="list-style-type: none"> PIT 1 M= 33,8 years PIT 2 M= 40 years 	<ul style="list-style-type: none"> 10 males 	<ul style="list-style-type: none"> PIT 1 M=7,2 years PIT 2 M= 9 years

Embedded multiple case study:

Contexts:

- Two Humanitarian Associations of Volunteer Firefighters (HAVF)

Cases:

- Two PITs

Units of analysis:

- Firefighters from two PITs

PROCEDURE

- Request for cooperation in a HAVF and with the PIT
- Unstructured collective interview with a PIT;
- Contact with two other HAVF and PITs;
- Pilot interview
- Scheduling and interviews



DATA COLLECTION AND ANALYSIS TECHNIQUES

The data were collected through documentary analysis and semistructured interviews to firefighters and were submitted to a content analysis (Bardin, 2014), through Nvivo software 12.

RESULTS AND DISCUSSION

Sources of occupational stress	PIT1		PIT2	
	Sources	References (%)	Sources	References (%)
Work-family conflict	4	6	5	7
Work conditions	2	3	0	0
Lack of training	5	7	5	7
Lack of psychological support	3	3	3	4
Contractual conditions	5	10	5	8
Physical requirements	4	8	5	6
Psychological requirements	5	6	5	8
Emergency situations	1	1	1	2
Cardio-respiratory stops	1	2	0	0
Multi-casualty accidents	2	2	2	2
Deaths	1	1	1	1
Fires	1	1	3	3
Injured minors	4	8	5	6
Disenfranchisement	3	3	2	2
Lack of job recognition	5	8	5	7
National emergency and civil protection association (NECPA)		16		12
General population	3	4	0	0
Volunteer firefighters	4	4	4	5
Relief unpredictability	2	3	2	2
Time pressure	5	6	4	4
Recognition of job	4	5	5	6
Teamates	4	5	4	5
Leadership	4	4	3	4
Autonomy in decision making	2	2	0	0
Sources of eustress		11%		12%

We found that the firefighters of the two PITs mainly experience distress. These results have also been evidenced in the literature that point out the firefighter profession as one of the most stressful (e.g., CareerCast.com, 2018). These results also corroborate studies with teams from social services that essentially highlight the negative sources of collective occupational stress (Peiró et al., 2002).

Among the sources of distress mentioned by the participants of both teams, working conditions stood out. In this regard, the lack of training and contractual conditions were evidenced by all the firefighters of the two teams. As found in occupational stress studies at the individual (Morgado, 2017) and collective (Peiró et al., 2002) levels, in these teams, the PIT firefighters also highlighted remuneration, career progression and differences in relation to other professional firefighters (sappers) as sources of distress.

Coping strategies used by firefighters in PITs	PIT1		PIT2	
	Sources	References (%)	Sources	References (%)
Emotion-focused coping	Involvement in leisure activities	3	4	11
	Cinivital moments	4	7	20
	Physical exercise	3	3	41%
Social support focused coping	Colleagues support	5	9	19
	Family support	5	7	39%
Problem-focused coping	Formation	4	4	10
	Debriefing	4	6	20%

The results show that the firefighters of both teams feel that the experience of stress at work impacts the quality of the services provided by the team and, consequently, the performance in the relief missions. Indeed, some authors have shown that occupational stress has negative professional consequences for individuals (Nelson & Simmons, 2003) and for work teams in terms of the quality of services provided, namely in terms of performance at work, and low performance (Gomes & Puente-Palacios, 2018; Peiró et al. 2002), as seen in these teams.

The participants resort more often to strategies focused on emotion, which meets the results found by Murta and Tróccoli (2007). In both teams, firefighters essentially mentioned their involvement in leisure activities. These results corroborate those of studies on work teams (Peiró et al., 2002; Rodrigues, 2008) who emphasize that living with colleagues outside the work environment provides greater knowledge of the other and, therefore, an increase in tolerance in stress situations experienced by these professionals.

Consequences of occupational stress for PIT firefighters		PIT1		PIT2	
		Sources	References (%)	Sources	References (%)
Professionals	Negative	3	3	1	1
	Positive	5	6	4	5
Personal	Psychological	5	10	5	7
	Physical	4	5	4	5
Relatives		5	6	5	9
		5	16%	5	25%

CONCLUSION

The results show that the firefighters of the two PITs, predominantly experience distress. We also found that strategies focused on controlling emotions stood out in both teams. Finally, we emphasize the negative impact at the personal, professional and family levels that the occupational stress perceived in the exercise of this function has on the participants and teams.

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