

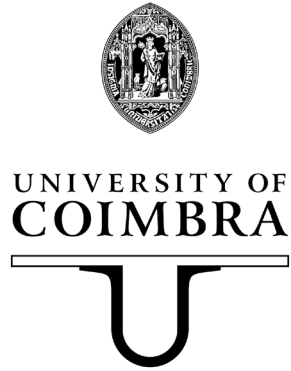
Nordisk konferanse
for behandlere
som arbeider med
traumatiserte flyktninger



FRA AVMAKT TIL STYRKE

STAVANGER

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Traumatic Stress among Firefighters: risk and protective factors

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Background

Firefighters who work in crisis and catastrophe scenarios may experience:

- Stress Reactions
(hypervigilance; intrusive memories; nightmares; startle reactions)
- Somatic Symptoms
- Fatigue
- Sleep Disturbance
- Depression
- Anxiety
- PTSD

These symptoms are often consequences of **maladaptive coping strategies** such as denial and avoidance, applied by the fear of stigma related to mental disorders and the will to meet the expectations placed on these professionals.

Armstrong, Shakespeare-Finch, & Shochet, 2014

Kim, Park, & Kim, 2017

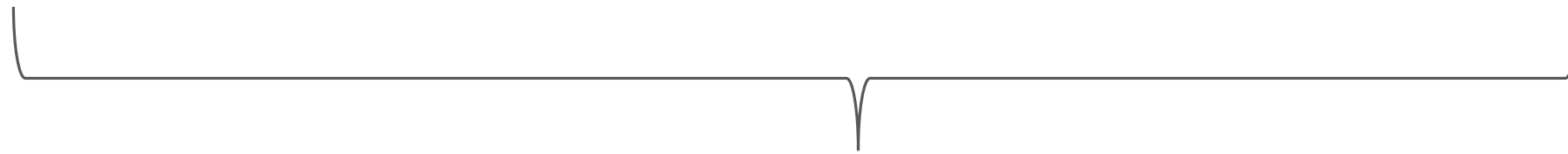
Lee et al., 2017

Paulus, Vujanovic, Schuhmann, Smith, & Tran, 2017

Although most research in this field have suggested that repeated exposure to stress is one of the main reasons that lead professionals to stress-related diseases, some studies have emphasized that firefighters, due their training and experience, are more protected from being affected by stress reactions than the general population.

Risk and Protective Factors

- Social and Organizational Support
 - Training
 - Experience
- } - Perception of Stress



- Coping Strategies

Boffa et al., 2018;
Brazil, 2017
Jahnke et al., 2016
Katsavouni et al., 2015
Kehl, Knuth, Hulse, & Schmidt, 2014
Pinto et al., 2017

Objectives

This study aimed to:

- verify the prevalence of PTSD and stress-related symptoms *in Portuguese firefighters who battled the 2017 violent forest fires.*
- identify the risk and protective factors for the development of PTSD and stress-related diseases.

Method

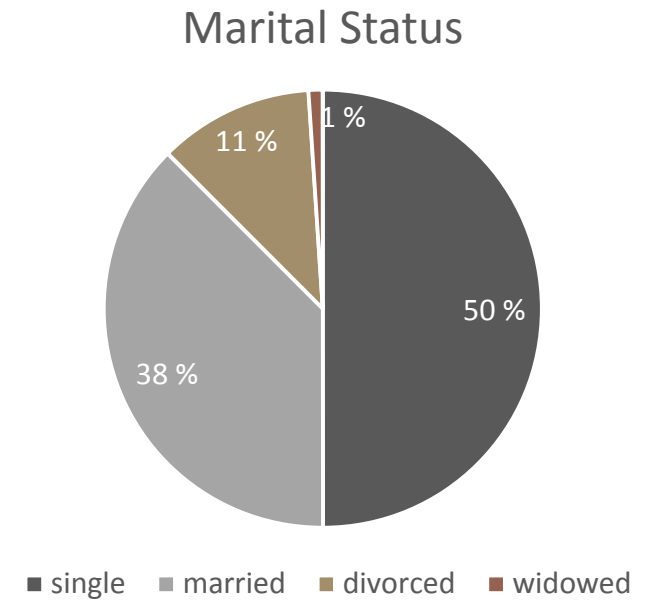
- A set of self-report measures including *15-item Patient Health Questionnaire*, *PTSD Checklist 5*, *Pittsburgh Sleep Quality Index*, *Brief Symptom Inventory* and *Depression Anxiety Stress Scales* was completed by 96 firefighters, and by 96 subjects from general population as means of comparison.
- Interviews were conducted on 79 firefighters, focusing on their representation of PTSD and other stress-related symptoms, as well as on the coping strategies they identify for dealing with duty-related traumatic exposure.

Results – Part I

- **FIREFIGHTERS (N=96)** (22 F / 74 M)
- Age = 35.4 years old
- Schooling = 12 years
(11.4% higher education)
- Income: 581-900€ (66.7%)
 - ≤580€ = 17.7%;
 - 901€ -1200€ = 6.3%
- Firefighter = 12.9 years
- 53.1% Professional Firefighters
(they are also volunteers)
- 46.9% Volunteer Firefighters

Age	Frequency	Percent	Valid Percent
<25	18	18.8	18.8
26-30	14	14.6	14.6
31-40	37	38.5	38.5
41-50	18	18.8	18.8
51-65	7	7.3	7.3
>65	2	2.1	2.1
Total	96	100.0	100.0

Years as Firefighter	Frequency	Percent	Valid Percent
1-5	26	27.1	27.1
6-10	16	16.7	16.7
11-15	24	25.0	25.0
16-20	11	11.5	11.5
21-30	12	12.5	12.5
31-40	4	4.2	4.2
>41	3	3.1	3.1
Total	96	100.0	100.0



GENERAL POPULATION (N=96)

(70 F / 26 M)

- Age = 38 years old
- Schooling = 13.8 years
- Higher Education = 38.4% (≥ 16 years of schooling)

- Income: $\leq 580\text{€}$ = 25%

581€ -900€ = 38.5%

901€ -1200€ = 16.9%

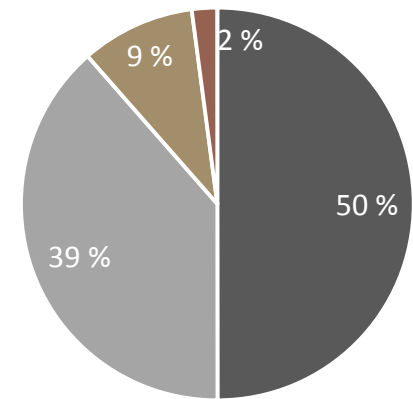
1201€-1500€ = 9.4%

1501€-2100€ = 2%

>2101€ = 2.1%

Age	Frequency	Percent	Valid Percent
<25	18	18.8	18.8
26-30	13	13.5	13.5
31-40	28	29.2	29.2
41-50	22	22.9	22.9
51-65	13	13.5	13.5
>65	2	2.1	2.1
Total	96	100.0	100.0

Marital Status



■ single ■ married ■ divorced ■ widowed

FIREFIGHTERS (N=96)

- 11.5% PTSD
- 14.6% Somatic Symptoms - moderate to high
- 9.4% Anxiety symptoms
- 45% Sleep disturbance
- 11.5% Depressive symptoms
- 30.2% Paranoid ideation (BSI)

GENERAL POPULATION (N=96)

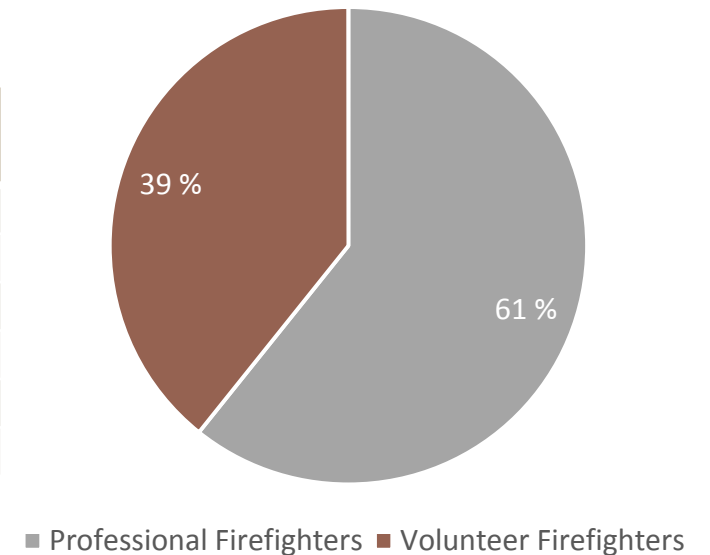
- 3.1% PTSD
- 11.5% Somatic Symptoms - moderate to high
- 8.3% Anxiety symptoms
- 41% Sleep disturbance
- 14.6% Depressive symptoms
- 17.7% Paranoid ideation (BSI)

Results – Part II

Interviews on **79 firefighters**
(57 male / 22 female)

- Age = 34 years old
- Schooling = 12 years
- Higher Education = 7.7%
(≥ 16 years of schooling)

Age	Frequency	Percent	Valid Percent
<25	12	15.2	15.2
26-30	15	19.0	19.0
31-40	37	46.8	46.8
41-50	14	17.7	17.7
51-65	1	1.3	1.3
Total	79	100.0	100.0



Activities performed by the sample

- 88.6% rescue and transport of patients, under the Integrated Emergency Medical Service
- 83.5% rescue of victims of fires, landslides and, in general, all types of accidents
- 82.3% battle forest fires
- 78.5% battle urban fires
- 17.7% underwater search and rescue

Is being a firefighter a stressful profession?

Yes **88.6%**

No **11.4%**

Stress factors while on duty

- 69.6% event with victims
- 54.4% uncontrolled fire
- 50.6% lack of communication among team members
- 50.6% uncertainties regarding the tasks and the situations (lack of information on mission)
- 41.8% unfamiliar terrain

What is PTSD and what are its symptoms?

According to 25% of the interviewed firefighters, PTSD is a response to the exposure to extreme or unpleasant events, a response when facing events you cannot deal with.

- 39% sleep disturbance
- 22.8% negative alterations in mood
- 16.4% social withdrawal and isolation

Can physical symptoms be related to PTSD?

Yes **88.6%**

No **11.4%**

- 64.5% sleep disturbance
- 60.7% fatigue
- 58.2% pain (mainly headache, muscle pain and back pain)

What are the main behaviors you relate to PTSD?

- 59.5% social withdrawal and isolation
- 32.9% aggressivity
- 22.8% avoidance behaviors
- 17.7% mood alterations, mainly irritability
- 2.5% alcohol and substance abuse

Firefighters also considered that

- social withdrawal and isolation (20.2%),
- avoidance and denial behaviors (19%) and
- mental disorders and experiences prior to exposure to a potentially traumatic event (11.4%) may aggravate the PTSD symptoms.

Have you ever experienced a potentially traumatic situation?

Yes **82.3%**

No **17.7%**

- 44% forest fires
- 28.8% road accidents
- 10.2% medical emergencies
- 6.8% rescue known people (family and friends)
- 3.4% witness a suicide

74.7% (n=59) of firefighters had described potentially traumatic situations they experienced.

“Forest fires, when I felt impotent facing the severity of that situation and victims' despair”.

“Accident with multiple victims, with multiple traumas including face deformation and dead people”.

“Road accident, in which at the scenario we realized that it was consequence of suicidal behavior. One of the victims (another car) was a friend of mine, so I had difficulty in dealing with...stress and trauma”.

“Underwater search for children's bodies”.

“June 17, 2017”.

Protective factors

- 81% peer support (camaraderie)
- 78.5% training
- 74.7% social support (family and friends)
- 70.9% experience
- 67.1% personal characteristics (personality and individual behaviors)

In addition, firefighters also mentioned the professional help (24%) and debriefing (13.9%) as means to deal with exposure to potentially traumatic events.

Although they recognize these factors as protectives against the development of stress-related diseases, *11.4% admitted they had coped with stress symptoms through isolation and avoidance behaviors.*

What attitudes do you consider essential among firefighters?

- 65.8% camaraderie/union/friendship/peer support
- 20.2% debriefing
- 15.2% hierarchy
- 6.3% training/professionalism

Portuguese Firefighters have associated these factors as means to cope with stress reactions.

What is the role of the Command members of the Fire Departments?

What are the attitudes they should have to help firefighters cope with stressful situations?

- 31.6% willingness to listen / be present and attentive
- 31.6% provide professional help and encourage treatment of mental health issues
- 29.1% validation and recognition of symptoms / feelings/ problem
- 20.2% responsibility / be aware of what happens in their departments and with each firefighter under their command

“The members of the Command should know how to support their men, comfort them, and convey confidence. It is fundamental they know the risks and possible consequences of missions. If something goes wrong, they have to know how to respond, even if the solution is asking for help outside the Department”.

“I believe there should be informative sessions, as well as psychological support within the Fire Departments in order that we can learn how to deal with the issues here addressed”.

“I believe that all Fire Departments must provide psychological support for their members. Unfortunately, most people are concerned about forest fires and ignore the fact that we deal with other stressful situations, such as road accidents, medical emergencies, suicides, etc. Situations that may affect us”.

Conclusion

- Organizational support
- Social support
- Experience
- Training

Protective/risk factors

- sense of belongingness
- peer relationship

means to deal
with stress
reactions

The different symptomatic repertoires obey cultural norms and prescriptions, the expectations of approval or disapproval, legitimation or guilt. It is evident that firefighters are used to dealing with physical discomfort, unpredictability, the pressure and expectation of society and their departments, the fear of the victims and their own fears. However, being prepared to face extreme situations is not synonymous with being immune to traumatic stress.

THANK YOU!

TAKK!

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