Predictors of Post-Traumatic Stress Injuries among Firefighters and First Respondents

Stéphane Guay^{1,2}, Steve Geoffrion¹

¹ School of criminology, Université de Montréal

² Department of psychiatry, Université de Montréal

Introduction

In the course of fulfilling their work duties, firefighters are regularly exposed to potentially traumatic events, such as death or serious injuries. This exposure may, in turn, have negative consequences on the mental health of firefighters, resulting in posttraumatic stress injuries disorder. The objectives of the present study were to:

- To evaluate the psychological health among firefighters in a fire department in the Montreal region. More specifically, to determine how common PTSIs are among its firefighters.
- To assess the link between sociodemographic variables (age, seniority, status as a first responder) and psychological health
- To determine if and how PTSIs are related to other variables, such as risk and protection factors, ideation) comorbidities suicidal (e.g., and organisational (absenteeism, outcomes

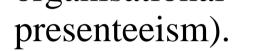
(PTSI). These PTSIs can take the form of depression, generalized anxiety disorder, or posttraumatic stress injuries 33.8% of firefighters are likely. suffering from at least one of three types of posttraumatic stress injury.

Questionnaires

- Generalized Anxiety Disorder 7-item scale (GAD-7)
- Depression: Patient Health Questionnaire (PHQ-9)
- PTSD Checklist for DSM-5 (PCL-5)
- Posttraumatic Growth Inventory (PTGI-SF)
- Critical Incident Inventory (CII)
- Professional stress: Enquête de stress professionnel adaptée aux métiers de l'urgence
- Coping strategies: Brief COPE
 - Psychological Sense of Organisational Membership Scale (PSOM)
- 2-Way Support Social Scale (2-Way SSS)
- Alcohol Use Disorders Identification Test (AUDIT)
- Drug Abuse Screening Test (DAST-10)
- Suicidal ideation: Risk for suicide scale (aRSD)
- Absenteeism and presenteeism (ABS)

Tables

GAD severity	Percentage	Number of participants
No GAD	94.5%	649



Methods

691 firefighters from a fire department around the Montreal region were recruited to participate in the study. Among them, 559 completed the study. The following were evaluated:

- Sociodemographic data
- PTSIs
- PTSI risk and protection factors
- PTSI personal and workplace outcomes

Data collection was achieved using self-report questionnaires that participants filled out using the Survey Monkey platform.

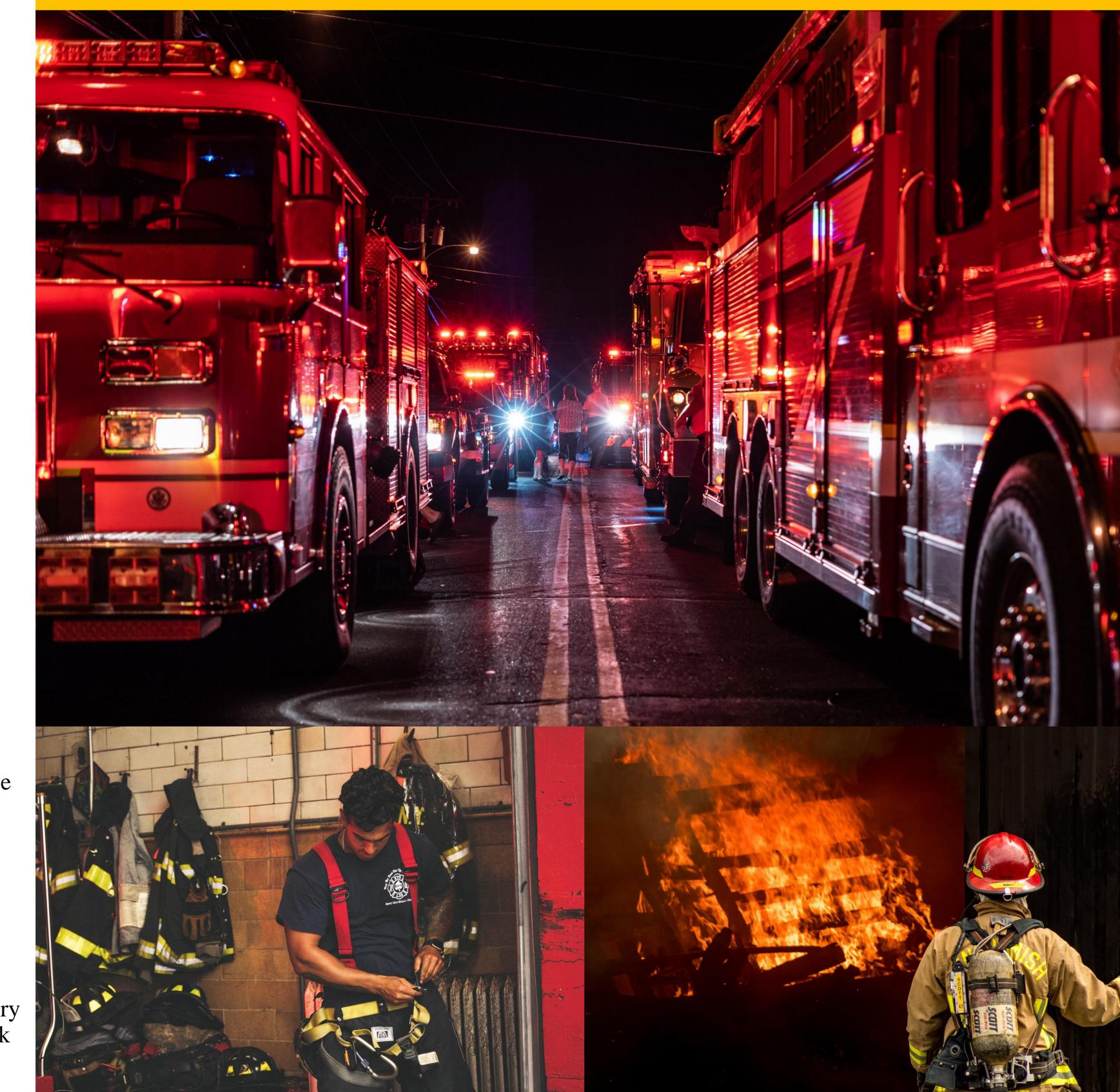
Results

33.8% of respondents had scores on self-report questionnaires indicating a probable diagnosis for at least one type of PTSI.

The likely presence of a PTSI is associated with a number of outcomes including increased risk of suicidal ideation and workplace problems such as absenteeism and presenteeism.

In addition, a number of variables were found to be associated with PTSI, such as a high score on the Critical Incidents inventory, an alcohol consumption problem and self-blame coping strategies.





Mild GAD	4.0%	28
Moderate GAD	1.5%	10
Severe GAD	0.0%	0

Depression severity	Percentage	Number of participants
No depression	68,4%	468
Mild depression	21,4%	147
Moderate depression	7,4%	51
Moderately severe depression	1,6%	11
Severe depression	1,1%	7

PCL-5 score	Percentage	Number of participants
Equal to 0	21,5%	137
Between 1 and 10	51.3%	326
Between 11 and 20	15.8%	101
Between 21 and 32	5.8%	37
33 or above	5.6%	35

Figures

Absenteeism and Presenteeism as a function of PTSI

Finally, a number of factors were found to have a protective effect with regards to PTSI: positive reframing served as a protective factor.

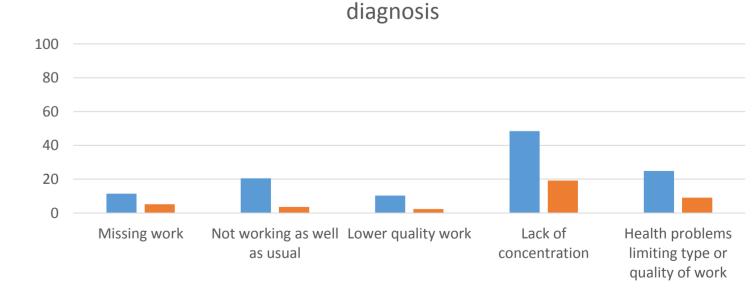
Discussion

Our results suggest that PTSIs are fairly common among firefighters.

PTSIs were associated with increased risk of negative outcomes such as increased suicidal ideation and absenteeism. Our findings also suggest a number of potential risk and protective factors with regards to PTSI.

Due to the cross-sectional nature of the research design, the trajectory of PTSIs and associated issues remains unclear. Further studies using a longitudinal research design are necessary to assess PTSI trajectory and how it is associated with outcomes as well as risk and protective factors.





Probable diagnosis

Risk of mental health problems as a function of alcohol

