"The problem hasn't changed, but you're no longer left to deal with it on your own" – the role of informal peer support in helping firefighters cope with critical incidents

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Abstract

Purpose – How firefighters cope with critical incidents is partly influenced by the culture of the fire brigade. The purpose of this study is to better understand how informal peer support helps firefighters cope with critical incidents.

Design/methodology/approach – An ethnographic field study of explorative nature was conducted. Data were collected by means of 20 participating observations and 72 interviews with Dutch firefighters from 37 different fire brigades. The analysis was an iterative process alternating data collection, analysis and theory formation processes.

Findings – Firefighters will turn to informal peer support to cope with critical incidents provided that facilitating circumstances are present and there is adherence to certain implicit rules. The collective sharing of memories, whether immediately post-incident or after the passage of time, helps firefighters process critical incidents and serves to promote unit cohesion. Most firefighters reported these informal debriefings to be preferable to the formal sessions. By comparison, a minority of firefighters reported that they did not benefit at all from the informal interactions.

Research limitations/implications – This study only focused on the informal peer support given by colleagues. Future research should focus on: (1) The possible differences between men and women as to what extent informal peer support is experienced after critical incidents, (2) Commanding officers: how do they, given their hierarchical position, experience coming to terms with critical incidents, (3) Premeditated critical incidents and the role of informal peer support, (4) Similarities and differences between career and non-career firefighters in experiencing and coping critical incidents.

Practical implications – Firefighters are an under-researched group in academic literature, that would benefit from mental health counsellors having a better understanding of their unique work culture and the complexity of the firefighting profession. More knowledge about the role of informal peer support is necessary to tailor help and aftercare more effectively to their needs.

Originality/value – Most studies confirm the importance of informal peer support when coping with critical incidents. This study provides initial, in-depth evidence of the role of informal peer support in helping firefighters cope with critical incidents.

Keywords Firefighters, Critical incidents, Informal peer support, Social support, Critical incident stress debriefing

Paper type Research paper

Introduction

First responders constantly face the possibility of being confronted with critical incidents that relate to personal loss, threaten one's well-being, and are often life-threatening (Bacharach and Bamberger, 2007; Flannery, 1999; Harris *et al.*, 2002; Fraess-Philips *et al.*, 2017). Incidents are

also perceived as critical if the first response failed or mistakes were made and if it involved children in pain or dying (Harris *et al.*, 2002; Fraess-Philips *et al.*, 2017; Monnier *et al.*, 2002). Such incidents are challenging because of the intensity of the subject matter and their inherent unpredictability and may lead to critical or even post-traumatic stress (Bacharach and Bamberger, 2007; Lewis, 2003; Mitchell, 1983; Fraess-Philips *et al.*, 2017).

One of the most effective ways to help people cope with high-stress situations is social support, given by a partner, relatives, friends and/or colleagues (Kim *et al.*, 2008; Thoits, 1982). Social support reduces the negative psychological impact after experiencing a critical incident (Varvel *et al.*, 2007), enable people to cope better with stress, reduces the number of negative reactions they experience, and stimulates their resilience (Bernabé and Botia, 2015). Another key factor is the availability and/or quality of critical incident stress debriefing. A common example of formal peer support is the method Critical Incident Stress Debriefing (CISD), where critical incidents and the stress reactions it produces are discussed collectively (Harris *et al.*, 2002). CISD sessions are attended by the direct crew members and colleagues with specialist training in aftercare. This method considers any susceptibility to and involvement with the workplace culture, and the emphasis lies on peer processes (Adler *et al.*, 2008). Critical incident stress debriefing can also be conducted more informally, by peers following a critical incident, involving the natural dialogue that emerges amongst those who were on scene and involves interaction in dyads or small groups (Jeannette and Scoboria, 2008). This organic banter – including, for example, dark humor (Dangermond *et al.*, 2022a) – is a constant amongst those who face adversity and tragedy uniquely as part of their vocational mandate and is connected to the group cohesion they experience (Jeannette and Scoboria, 2008). Informal peer support should be distinguished from formal peer support, this distinction is based on the recognition by behavioural scientists of the often detrimental impact of traumatic stress and the potential to defuse these negative effects by early processing.

This article focuses on informal peer support by a particular group of first responders: firefighters. Firefighters aid in all kinds of incidents, such as fighting fires and assisting to people and animals. Specific incidents are experienced as critical, such as serious traffic incidents, drownings, resuscitations, suicides, and incidents where firefighters know the casualty personally, where they perceive their response effort as having failed, or where the casualty dies during the first response effort (Van Der Velden *et al.*, 2006; Jacobsson *et al.*, 2015; Harris *et al.*, 2002, Dangermond *et al.*, 2022b). Firefighters experience almost all critical incidents as a collective because they usually work as a team and the team (crew) is part of a larger whole: the fire brigade. How firefighters process critical incidents is, to a certain extent, influenced by the fire service culture they experience (Haverkamp, 2005). This culture is distinctive (Johnson *et al.*, 2020) and characterized by close cohesion (brotherhood) and mutual trust (Varvel *et al.*, 2007). Firefighters have a joint mission and a shared history because of their communal experience; loyalty is expected to each other and to the group (Crosby, 2007). These strong intra-group bonds are central to the functioning of firefighters (Johnson *et al.*, 2020). They may influence the impact of critical incidents, for example because of group expectations and standards applying to critical incidents (Jeannette and Scoboria, 2008).

Research into help-seeking behavior and preferences among firefighters indicates that help-seeking patterns vary, depending on years of service and stigma-related barriers (Gulliver *et al.*, 2019; Tamrakar *et al.*, 2020). Studies on the formal method CISD have revealed contradictory findings on the effectiveness (Devilly *et al.*, 2006; Johnson *et al.*, 2020; Varvel *et al.*, 2007). In practice, many firefighters prefer informal peer support to help them cope with critical incidents (see, e.g. Jeannette and Scoboria, 2008), but it is not clear how such support is given. This study aims to understand the role that informal peer support played for firefighters, after they experienced a critical incident. Firefighters are an under-researched group in academic literature (Fraess-Philips *et al.*, 2017), a group that would benefit from mental health counsellors having a better understanding of their unique work culture and the

complexity of the firefighting profession (Johnson *et al.*, 2020; Gulliver *et al.*, 2019). More knowledge about the role of informal peer support is necessary to tailor help and aftercare more effectively to their needs. Therefore, the key focus of this article is the research question: *What role does informal peer support play in helping firefighters cope with critical incidents?*

Research method
The study reported here was part of a research project in the Netherlands into the role of fire service culture in coping with critical incidents. An ethnographic field study of a highly explorative nature was conducted to answer the research question. The basic principle underlying ethnographic research is that groups of people who live together for a certain period develop their own cultures (Patton, 2015). Firefighters and the fire brigade they belong to are an example of such a group.

Long-term participation in the firefighters' world by building trust and talking about their personal experiences and perceptions is conducive to understanding of how critical incidents are coped with and the interactions between firefighters and their group culture. Hence this study effectively expands on previous research that is generally of a quantitative nature (Bacharach and Bamberger, 2007; Ogińska-Bulik, 2015; Regehr *et al.*, 2003; Cowman *et al.*, 2004; Varvel *et al.*, 2007; Bernabé and Botia, 2015; Huynh *et al.*, 2013). An ethnographic field study is also an appropriate design for the current study, as it focuses on a sensitive topic that may be considered taboo by those involved. Various studies have described how a cultural stigma impedes firefighters from discussing mental health issues (Henderson *et al.*, 2016; Stanley *et al.*, 2017; Kim *et al.*, 2017; Gulliver *et al.*, 2019; Tamrakar *et al.*, 2020).

An ethnographic field study offers many opportunities to discuss matters in confidence. A noteworthy circumstance in this study is that the first author works as a researcher at the Dutch Fire Service Academy and belongs to a fire service family. She can therefore be seen as an insider researcher (Green, 2014). This researcher is more likely to be accepted by the population being studied. In addition, an insider researcher has relevant prior knowledge at their disposal, which makes it easier to ask more in-depth questions (Kniffin *et al.*, 2015). However, an insider researcher may encounter ethical and moral dilemmas (Floyd and Arthur, 2012) because of personal or professional relationships with participants (Perryman, 2011; Vass, 2017). In this study many participants indicated that they regarded the researcher as a member of the "family". Although the distinction is not always absolute between etic (outsiderness) and emic (insiderness) (Beals *et al.*, 2020), this study is executed from an etic perspective.

Data collection
Data were collected through a three-phase process (see Table 1). The first phase consisted of open ended interviews with firefighters varying on basis of length of service, sex, cultural backgrounds and career (professional) and non-career (volunteer) firefighters. These interviews were held to identify relevant themes for follow-up research from different perspectives. The second phase consisted of collecting information through participant observations. A total of 20 participant observations took place in six crews of career firefighters from six fire brigades. Throughout several 24-h shifts per crew, the researcher was present and participated in all activities (except providing aid during incidents). In addition, observations were made during evening drills (non-career firefighters). Observation reports were made both during and immediately after each participant observation. These reports contain descriptions of the atmosphere, (critical) incidents (if any), commanding officers' roles, group dynamics, and informal and formal support. The third phase consisted of 72 semi-structured in-depth interviews with individual firefighters. Participants in these interviews were selected utilizing findings from the open interviews and

	Phase 1	Phase 2	Phase 3
Method	Open interviews	Participant observations	Semi-structured in-depth interviews
Participants	Firefighters with different years of service, career and non-career firefighters, men and women, and people of various cultural backgrounds		
Main themes	Fire service culture, (impact of) incidents, informal and formal support	Atmosphere, incidents (if any), commanding officers' roles, group dynamics, and informal and formal support	The crew and their brigade, sense of community, the commanding officers' roles, and social support
Analysis (thematic)	Open coding	Open coding Axial coding	Open coding Axial coding Selective coding

Table 1.
Data collection and analysis

theoretical sampling (Patton, 2015), a targeted selection based on considerations from the literature. For example: firefighters with different years of service were selected because of the possible effect on the degree of exposure of critical incidents and of experiencing social support (Regehr *et al.*, 2003; Sluiter and Frings-Dresen, 2007), and both men and women were selected because female firefighters describe critical incidents differently than their male colleagues (Jacobsson *et al.*, 2015). The list of topics for the in-depth interviews was based on the results of the open interviews and the participant observations. The main themes were: the crew and their brigade, sense of community, the commanding officers' roles, social support (multidimensional model of social support, Cutrona and Russell, 1990), and support from friends and family. Participant observations and semi-structured in-depth interviews were conducted in each crew of career firefighters selected. This enabled observation results to be compared with the semi-structured interviews (and vice versa) to supplement or correct them or add more in-depth details. The face-to-face in-depth interviews took place in fire stations, in public places or at participants' homes. The interviews took one-and-a-half to two hours. All interviews were taped on voice recorders and transcribed verbatim. All participants signed an informed consent statement in advance.

Sample
The Dutch fire service is made up of 23,570 firefighters (4,357 career firefighters and 19,646 non-career firefighters) located at 969 fire stations (Netherlands Institute for Safety, 2020). The study sample comprised crew members, crew commanders and shift leaders: 40 career firefighters, 20 non-career firefighters and 12 participants who were both career and non-career firefighters were involved, of whom 5 women and 67 men, with an average age of 43 and an average length of service of 19 years. The participants represented 19 professional and 18 volunteer fire brigades.

Analysis
Thematic analysis – an approach for "systematically identifying, organizing, and offering insight into patterns of meaning (themes)" (Braun and Clarke, 2012, p. 57) – was used to analyze the data set and consisted of six phases, (1) Becoming familiar with the data, (2) Generating initial codes, (3) Searching for themes, (4) Reviewing themes, (5) Defining themes and (6) Finishing the report. The analysis was an iterative process alternating data collection, analysis and theory formation processes. Induction and deduction took place simultaneously. The Atlas.ti qualitative analysis program was used to thematic analyze the data using open, axially and selective coding (Patton, 2015). Open coding was applied mainly when analyzing

the open and semi-structured in-depth interviews and participant observations (for example the codes: "fire service culture", "group dynamic", "formal/informal processing") (phase 1, 2). The data was axially coded in the next step. As part of this step, codes were validated by splitting, merging and comparing codes, and by identifying new codes (for example splitting the code "fire service culture" into the subcodes fire service culture "unwritten rules" and "traditions"). In addition, several codes were clustered into one or more group codes, based on detailed considerations (for example "stimulating factors" and "barriers" of the fire service culture in processing critical incidents). Lastly, individual and group codes were compared in order to analyze their relation (phase 3, 4, 5). After each coding step, the preliminary results were tested during observations and interviews, until the first signs of saturation appeared and the report could be completed (phase 6).

Triangulation of methods added depth to the study results. The different forms of data collection enabled us to study the participants from multiple perspectives. Observations were conducted to chart what could be observed externally, whereas the interviews gathered more in-depth knowledge. The combination of the prolonged participant observations, the many semi-structured in-depth interviews and the detailed, structured methods used to collect and analyze data enhanced the validity and reliability of the research. In all steps, the first author worked closely with an expert on the subject (2nd author) and two academic non-insiders (3rd and 4th authors) (researchers' triangulation).

Findings

Participants prefer informal above formal peer support (e.g. CISD) to help them cope with critical incidents. Informal peer support from their crew members (without outsiders) at a moment when they feel the need (immediately after the incident or longer afterwards) is sufficiently effective: "We can solve most incidents internally, with each other" [R.98]. CISD sessions are regularly described as cumbersome because these sessions are not the first or the only moment to collectively process an incident. "In the fire appliance, in the shower, while drinking coffee and waiting for the crew to be complete. Then you have it all. And then you have to do it again" [R.49]. Some participants reported that negative experiences with CISD from the past are etched in their memories or the collective memory of the crew and therefore make them reluctant to attend these sessions. To understand how and why (not) informal peer support helps firefighters cope with critical incidents, the findings are clustered in three themes: (1) *The conditions* under which informal peer support takes place, (2) *Joint coping,* the added value of informal peer support, and (3) *Inhibiting factors* for informal peer support. Quotes from the interviews support the findings.

Conditions of informal peer support (where and when)

Participants indicate that coping with the incident normally starts as soon as the crew is in the fire appliance, on their way back from the incident to the fire station. "You feel it. You talk about it. It starts immediately when you're back in the appliance. Everybody wants to tell their story" [R.68]. The type of incident, how the first response unfolded, and whether the incident is experienced as having been a critical one, determine the atmosphere in the fire appliance. Diverging needs as regards coping with the incident have already become clear. A first attempt at getting a "complete picture" of the incident is made, this is considered to be an important part of the coping process: "At first, you're full of adrenaline, still trying to grasp what has happened and how did we do. And then comes the realization, what have we done? What are the points where things could have gone wrong? I do not think people say this, but we can see it in one another" [R.71]. Participants observe the dynamics in vehicle's back to determine whether people need to come to terms with what they have experienced. An

important condition during this initial stage of coping is that nobody can hear the crew talking because of the use of black humor: "When the picture's complete, the jokes start. This allows you to deal with it in a certain way, because then you know exactly what happened" [R.62]. Participants tell that although this type of humor is an essential aspect of coping with critical incidents, it can come across as inappropriate to people outside the fire crew.

There is no standard routine for what participants do upon their return to the fire station after a critical incident. Many participants reported that the coping process continues in the showers. "Myself and many others think that's important, to keep an eye on each other in the showers. Just to see how others are doing" [R.6]. Several female participants mentioned that they missed being part of such conversations. Since they have their separate shower facilities, they miss out on parts of the conversation and are excluded from the collective coping process for a while. After having showered, non-career firefighters return to their jobs or homes and career firefighters continue their shifts, unless the incident is considered so critical and distressing that they feel the need to continue talking about it. Participants described this as "the coffee moment". Again, there is no specific routine. Usually, the crew review how the incident went and who did what for which reason. "Just some chit-chat going back and forth" [R.52].

Firefighters discuss critical incidents from the immediate or distant past during collective moments at the fire station. Furthermore, many participants have one or a few colleagues in the collective that they get along with, who are their "buddies". People confide – or do not – in specific colleagues, depending on the subject, the need, the moment, even their own personality. "I do not tell just anyone what's on my mind, but there are certain people I can and will express my feelings to" [R.96]. There are moments when the entire crew is not present, only a few members are, for example when sharing a dormitory, at the bar after an evening drill, if some crew members are doing the shopping, while cooking, or on a specialist vehicle. Such moments are used for more individual talks.

Critical incidents are shared as professional knowledge, but also to preserve a fire brigade's collective memory. The stories that are shared influence the social relations among the crew or brigade. "Put five firefighters in a room and they'll start telling stories that will become taller and taller. Probably half of these stories never happened or are exaggerated. The later it gets, the taller the stories. It has to do with prestige. The tougher your stories, the higher you think you'll rise in your colleagues' esteem" [R.94]. Besides collectively coping with incidents at the fire station, the scene of an incident can bring back memories and impact the joint coping process. "Sometimes you're driving through the town and all these things pop up again. And there are some things you will never forget. You drive past and it all comes back when you talk about it" [R.21].

Joint coping – the added value of informal peer support
Teamwork is inherent to firefighting, critical incidents strengthen the mutual bond: "misery connects people together" [R.59]. Participants value personal attention for the well-being of fellow crew members after such incidents. "They're all there for you. They text, call, want to come over. Basically everybody's there for each other. Some more than others, but that's fine" [R.84]. A change in someone's behavior – immediately or afterwards – is often reason to talk to each other. "You know each other quite well. If there is someone who is always on duty and I do not see them all day long, I'll go to them and ask 'hey, what's up?'" [R.79]. Especially aspiring firefighters, colleagues who have experienced a particular type of incident for the first time, and/or colleagues who have experienced a series of several critical incidents are monitored. Participants are alert to a possible cumulative effect – several serious incidents taking place within a certain period is usually experienced as being critical. An important reason participants use their crew for informal support is that they do not have to explain anything to their crew members; they understand each other better than "outsiders".

Participants emphasized that, as a result of joint coping, immediate colleagues know what happened during the incident and its impact on their peers involved. "The problem hasn't changed, but you are no longer left to deal with it on your own" [R.73]. That is why participants (commanding officers) opt to involve the entire crew in the coping process; they indicate this is typical of the fire service: "There are six of us in the appliance, which is different from the police and ambulances, they rotate too. If something happens to them, they haven't got a buddy to whom they can say 'you'll never guess what happened in my previous shift'" [R.50].

Although it is common practice for the entire crew to feel responsible for the well-being of individual crew members, it is formally the commanding officer's responsibility. According to participants, the commanding officer has a leading role in coping with critical incidents, and should ensure a safe and open culture in which colleagues are not afraid to show their vulnerability. The commanding officer lends a listening ear and offers support when informing the rest of the crew. "It depends on the impact: does it only concern that person and me, or does it also concern the rest of the crew? I'll then say that it would be convenient if the rest knew as well, because they can support you and they will know why you react the way you do" [R.96]. Most commanding officers have seen quite a few years of service. Their work experience helps them identify potential problems. To assess whether coping support is going to be needed immediately after an incident and, if so, in what way, it is important for commanding officers to be aware of the impact of the incident on their colleagues and of any possible personal circumstances. Several commanding officers indicated that when in doubt they address their colleague individually: "I will not probe when all the others are around, because that would be putting him in a difficult position. I would wait for a more convenient moment to talk to that person alone" [R.2]. Sometimes the commanding officer is alerted to someone's behavior by another colleague quite some time after the critical incident: "It is fairly common for people to come to me. The person in question doesn't immediately see any problem, 'no, nothing's wrong, everything will be fine', but others tip me off" [R.98].

Inhibiting factors for informal peer support
Not everyone looks for and/or receives informal peer support: because the person in question is not open to it and/or because that support is not given or not experienced as such. Participants state several reasons for this:

(1) Substitutes as inhibiting factor

Substitutes (replacement colleagues) from outside one's own crew are considered to be an inhibiting factor for the coping process. The substitute is not present at the next shift, which impedes sharing experiences with the colleagues directly involved. Furthermore, it is difficult for the commanding officer to assess the impact of an incident on the substitute, as the substitute may be an unknown. Depending on the substitute, not everyone feels comfortable opening up fully to their own crew: "You don't discuss anything that you'd prefer to keep within your own crew" [R.56].

(2) Stigma or taboo of showing one's vulnerability

Most participants do not experience any taboos when it comes to sharing experiences and emotions. However, several did wonder whether the colleague in question is actually suited for the firefighting profession, which takes a continuous toll on a person: "You know it can happen. I think that if you just talk about it afterwards, that should be enough to put it to rest, and if not, you're not cut out for the job" [R.56]. The type of incident and personal circumstances determine whether or not emotions are accepted. Some participants reported that they do not always show their vulnerability as individuals in the collective, because of

the group dynamics. This is particularly true if someone is, or has the feeling of being, the only person who feels emotional after an incident: "I'm the softie of the crew then, because I was the only one who was scared at some point" [R.77]. The participants state that the fire service has made big strides in recent years when it comes to being open and showing one's vulnerability: "It does not come naturally yet, but I do believe that people have gradually started feeling free about discussing things together in the group" [R.19].

(3) Being open – or not – to support from colleagues

Some participants described themselves as being someone who does not look for informal support from colleagues – or at least not easily – and see themselves as a passive sharer – "It isn't so much that I'm ashamed, I don't really feel the need to share it with them [colleagues, ed.]" [R.58]. It may also be difficult to look for support privately. Some reported that, although colleagues should keep a lookout for symptoms, the colleague has a responsibility. "You can experience some intense stuff together. If you want to talk about it, you will have to reveal more of yourself" [R.78].

Discussion

This study provides initial evidence of the role of informal peer support in how firefighters cope with critical incidents. Insight is given in why informal peer support is experienced as a supplement to or replacement of a CISD session, how informal peer support is perceived at different times and differs per person and crew, that support is received from the collective, an individual colleague (including the commanding officer) or a combination of the two, and the different reasons why participants do not experience informal support at all.

In line with previous studies, our results clarify that informal peer support reduces the impact of a critical incident (Varvel *et al.*, 2007). The results also confirm that firefighters, while coping with an incident, prefer informal over formal peer support such as CISD (Jeannette and Scoboria, 2008). Informal peer support is sufficiently effective and offers three benefits. First, crew members had the same and/or similar experiences and knew each other personally. Experiences and emotions are shared without any further explanation being required. Second, informal peer support is better at meeting personal needs than the one-size-fits-all CISD method (Varvel *et al.*, 2007). An incident can be interpreted in different ways, depending on the significance a person attributes to it (De Soir, 2012; Dangermond *et al.*, 2022b). Different interpretations in a fire service crew are associated with varying coping needs. Depending on the incident and their personal circumstances, firefighters look for informal peer support from the collective (the entire crew) and/or from individuals. This takes place when firefighters feel the need. Given these different interpretations and preferences, it is important that both formal and informal support is available. Third, firefighters experience the added value of support from their commanding officer. This is in line with previous studies (Bernabé and Botia, 2015; Varvel *et al.*, 2007; Birkeland *et al.*, 2017). Nevertheless, some firefighters in this study indicated that they also valued the individual and/or collective support from their other colleagues just as highly or even more. The fact that firefighters are satisfied with the support they get from their colleagues is an important finding. Previous studies show that firefighters who are satisfied with the informal peer support they receive, experience less stress than those who aren't satisfied with it (Cowman *et al.*, 2004).

Firefighters who have individually or collectively experienced an incident as critical can be reluctant to look for informal peer support because of the group culture. Similarly to what was found in an earlier study (Wilmoth, 2014), some firefighters indicated that they weren't keen on discussing their vulnerability because they feared it would make them come across as weak. Firefighters are socially trained and feel the need to control their emotions during first-response actions, so that they will be able to provide adequate assistance (Scott and

Myers, 2005; O'Neill and Rothbard, 2017). Therefore, the processing starts as soon as the crew is in the fire appliance, with the doors closed. This is in line with a previous study into emotion suppression (O'Neill and Rothbard, 2017), which showed that firefighters do not find it appropriate to display emotions at the scene of an incident. Our study reveals that, besides individual interpretations, the impact of an incident on the individual is connected to group expectations, standards and culture relating to the critical incident. This is also in line with previous studies (Jeannette and Scoboria, 2008; Haverkamp, 2005).

The combination of working in what are usually fixed crews, the collectiveness of firefighters' work and the associated fire service culture are concepts that do not exist or are less prevalent among other first responders such as police or ambulance personnel. Because of the differences in requirements and tasks, first responders experience a different range of critical incidents. A proper evaluation of critical incidents and how people cope with them would require studies on the individual professional groups (Halpern et al., 2009; De Soir, 2012). An understanding of the interaction between firefighters and their social work environment (the fire service culture) shows that resilience is influenced by both the person (firefighter) and the social cohesion within the crew or brigade. Given the importance of informal peer support in coping with critical incidents, strengthening internal cohesion and support among fire service crews should be promoted, as advocated previously by Sattler et al. (2014). Firefighters' good mental health not only serves their interests, but organizational and social interests as well.

Limitations and future research

Only Dutch firefighters were involved in this study. However, there is no reason to believe that the culture of Dutch firefighters is unique and differs on the dimensions investigated in this study with firefighters from other Western countries. A limitation is that this study only focused on the informal peer support given by colleagues, while other studies show that spouses also play an important role (Gulliver et al., 2019; Tamrakar et al., 2020). Furthermore, there are several suggestions for further research. First, given the small number of female firefighters in this study it was not possible to give a detailed description of the possible differences between men and women as to whether or not, and to what extent, informal peer support is experienced after critical incidents. Further studies should pay more detailed attention to gender. Second, future studies should also focus on commanding officers: how do they, given their hierarchical position and responsibility, experience coming to terms with critical incidents using formal or informal peer support? Third, informal peer support may be significant in the event of premeditated critical incidents, like terrorist attacks. In such situations, informal peer support should have the particular function of restoring feelings of trust and safety (Birkeland et al., 2017). It would be interesting to explore this further in follow-up research. Fourth, this study involved both career firefighters and non-career firefighters. Besides similarities, there may also be differences between career firefighters and non-career firefighters in experiencing critical incidents and opportunities for coping with these incidents. This topic will be examined in more detail in a follow-up study.

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