



EXPERIENCES AND IMPACTS OF THE POST CRITICAL INCIDENT SEMINAR AMONG RESCUE AND EMERGENCY MEDICAL SERVICE PERSONNEL

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ABSTRACT

Rescue and emergency medical service personnel face traumatic critical incidents during the course of their work. Therefore, suffering from post-traumatic stress disorder is not uncommon. The first Finnish three-day-long Post Critical Incident Seminar for rescue and emergency medical service personnel took place in the fall of 2019. The aim of this study was to examine how the participants experienced the three-day seminar, and what kind of impact the seminar had on them.

The participants (n = 12) were interviewed individually 3 to 6 weeks after the seminar. The structured interviews were voice-recorded, the collected data were transcribed, and the latent content was analyzed following the inductive content analysis process. The participant experiences regarding the actual seminar formed two main categories (which contained a further 6 categories and 22 sub-categories): (1) The personal process was filled with emotions, and (2) the atmosphere and arrangements supported the personal process. The impacts of the seminar formed three main categories (which contained a further 7 categories and 24 sub-categories): (1) structure for the past traumatic experience, (2) enthusiasm toward work and the workplace, and (3) increased mental health wellbeing and stability.

The Post Critical Incident Seminar was positively experienced and had several further impacts. As such, a number of further research needs are suggested.

Keywords: firefighter; paramedic; rescue service; emergency medical service; traumatic events; critical incidents

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1 INTRODUCTION

Rescue and emergency medical service personnel are the initial rescue and health care providers at the scene of an incident, and their work contains intense actions and decision-making under difficult and extreme conditions. Thus, rescue and emergency medical service personnel are exposed to traumatic critical incident experiences during the course of their work [1,2]. For example, in a recent study among rescue personnel, 70.2% (of the 618 participants) had memories of traumatic critical incidents during their career [2].

Rescue and emergency medical service personnel are at an increased risk of developing post-traumatic stress disorder (PTSD) [3]. In a meta-analysis [4] from the year 2012, the pooled worldwide prevalence of PTSD was 10.0% (n = 20,424, participants from 14 countries across all continents) among widely defined rescue workers. In more detail, the prevalence of PTSD was 14.6% among emergency service personnel and 7.3% among firefighters. For comparison, the PTSD prevalence in the general population was 1.3%–3.5% [4].

Although rescue and emergency medical service personnel may suffer from PTSD, they often still participate in active work duties. However, the previous traumatic critical incident experience may limit their work performance. According to a recent study with 618 firefighters, there is a significant relationship between previous traumatic critical incident experiences and work limitations related to responding to psychological or physical work demands, as well as to their abilities to function without difficulties within the ambient work environment [2]. Professionals with PTSD symptoms may experience acute stress in critical incident situations, which can impair their risk assessment abilities [5]. Furthermore, PTSD symptoms are also associated with severe mental health problems, such as depression and heavy drinking [6,7], and overall lower health-related quality of life [8]. In addition, a large study (n = 3036) among rescue and emergency medical service personnel found significant associations between lifetime suicidal ideation/attempts and PTSD symptom severity [9], and these findings are supported in other studies [10,11]. As repeated traumatic critical incident exposure worsens PTSD symptoms in a linear manner [6,12], it is extremely important to find beneficial ways to ease the load that these incidents have been building in the minds of rescue and emergency medical service personnel.

A recent study among firefighters showed that seeking social support helps to recover from traumatic critical incident experiences [1]. Respectively, another recent study found that reluctance to speak about the experiences is associated with more severe PTSD symptoms

among rescue and emergency service personnel [13]. The importance of social support in the processing of traumatic critical incident experiences has also been noted in previous studies regarding these occupations [14,15]. Studies have highlighted the need of a professional treatment system for preventing and managing traumatic critical incidence experiences [2]. It is also acknowledged that facilitating and encouraging active handling of traumatic critical incident experiences may help in the recovery process [13].

The Post Critical Incident Seminar is a three-day-long seminar that provides mental health treatment, peer support, and social support, and was originally designed for law enforcement officers who have been through traumatic critical incident experiences that are unresolved even years later, and whose symptoms are negatively affecting their lives [16,17]. Previously, Lamphear [16] and Sparr [17] carried out effectiveness and program evaluation studies regarding the Post Critical Incident Seminar among law enforcement officers with supporting results. The first Finnish three-day-long Post Critical Incident Seminar for rescue and emergency medical service personnel took place in the fall of 2019. To the best of the author's knowledge, this is the first study that examines the seminar among these professions.

The research questions were:

- (1) How did the participants experience the three-day seminar?
- (2) What kind of impact did the seminar have on the participants?

2 MATERIAL AND METHODS

2.1 The Post Critical Incident Seminar

The Post Critical Incident Seminar is a three-day program widely used among law enforcement officers and rescue and emergency medical service personnel, at least in the United States. In Finland, the seminar has been implemented among law enforcement officers (meaning police) and executed annually since 2010 in this context. The structure for the first Finnish Post Critical Incident Seminar for rescue and emergency medical service personnel was adapted from this widely used program and organized by The Finnish Association of Fire Officers.

The Post Critical Incident Seminar is led by seminar director and conducted with licensed psychotherapists, work counseling professionals, and peer support instructors. The seminar consists of three themes, namely, lectures, peer support groups, and therapy sessions with eye movement desensitization and reprocessing (EMDR). On the first day of the seminar, the participants introduce themselves and explain in a group the reasons why they are attending the seminar. The previous traumatic critical incident experiences are discussed. On the second day, the program consists of lectures, small group discussions, and therapy sessions. Social program is available at evenings. The third day is similar to the second day, but the rest of the day is used to make a follow-up plan and for safe repatriation for participants [16,18].

In the Finnish seminar, the lecture topics in deal extensively with trauma symptoms and issues that affect the treatment, i.e., brain function during traumatic critical incident experiences, the importance of speaking, sleep, nightmares, reliving the event, and the effects of alcohol and medication. Coping-skills and preparing for critical incident situations are also discussed, and, in addition, it is addressed that the need for psychological help is not weakness or shameful [18].

2.2 Participants

The participants (n = 12) were Finnish rescue and emergency medical service personnel, meaning firefighters and paramedics. The participants were from all across the country, and all were in active work. The participants felt that they have been exposed to traumatic critical incidents more than six months ago and the participants applied to the Post Critical Incident Seminar themselves. The amount or the quality of the exposure was not central, but the experience of it was the reason for applying for the seminar.

The mean age of the participants was 42 years. The work experience of the participants varied from 6 to 32 years (mean, 17 years). The time since the traumatic critical incident experience, which caused the need to apply for the seminar, varied from 2 to 26 years (mean, 9 years). Both women and men were represented, but the exact gender distribution was not requested for study purposes so as to ensure the anonymity of the participants.

All participants of the Post Critical Incident Seminar agreed to participate to the study.

2.3 Collecting the Data

The preparation phase of the data is important for the trustworthiness of the chosen qualitative study process [19]. In this study, the data were collected with individual interviews performed three to six weeks after the seminar. The interviews were done via Skype due to the long distances. The interviewer was a member of the organizing team of the seminar. The author structured the questions for the interviews and gave instructions to the interviewer to ask for clarifications during the interviews. The interviews were voice-recorded (total 5 h 15 min = mean 25 min 45 s per interview) and sent to a transcription company, and the author received the transcribed data without the identification information of the participants.

2.4 Analysis Process

The organization, which is the second phase of the chosen qualitative study process, includes the actual analysis of the data, meaning open coding, creating categories, and abstraction [19]. Following the inductive content analysis process described by Elo and Kyngäs [20], the author started the open coding by familiarizing herself with the data, meaning reading it several times. The units of the analysis were chosen to be the latent content of the words and sentences. After the familiarization, the analysis was performed separately for each research question. The analysis continued with writing the headings and summarizing the sentences in the text. The point to writing the headings and summarizing the sentences was to describe all aspects of the content that were related to the research question. Next, the headings and the summarized sentences were organized into separate coding sheets. Categories were created by grouping similar headings and summarized sentences together, and naming the categories in English using content-characteristic words. In the abstraction phase, sub-categories, categories, and main categories were formed (Appendix 1: Figures 1–5) [20]. The third and final phase of the qualitative study process used was the reporting of the results [19].

3 RESULTS

The participant experiences regarding the three-day seminar formed two main categories, which contained a further 6 categories and 22 sub-categories (Appendix 1: Figures 1 & 2). The main categories were (1) the personal process was filled with emotions, and (2) the atmosphere and arrangements supported the personal process.

The impacts of the seminar formed three main categories, which contained a further 7 categories and 24 sub-categories (Appendix 1: Figures 3 - 5). The main categories were (1) structure for the past traumatic critical incident experience, (2) enthusiasm toward work and the workplace, and (3) increased mental health wellbeing and stability.

The results are presented according to the research questions.

3.1 How did the participants experience the three-day seminar?

3.1.1 The personal process was filled with emotions

The participants expressed that taking part in the seminar demanded courage. The addressed issues were also unexpected, as personal life issues were also discussed, not just work-related experiences. The physical reactions were surprising to the participants, meaning that heavy crying alongside the discussions was not expected by all of the participants. It took courage to let others under one's surface, as the participants were strangers to one another and there were no uniforms or other roles present. Participants also pointed out that it took courage to talk about very personal experiences in front of the group.

“I was thinking about all the missions and particularly that – mission in the emergency medical service, that it’s the kind I want to unload there, but in reality it or really any work tasks were not discussed at all during those three days, for some reason it did go to unloading personal life stuff which was a really big surprise to me, that it turned that way.” (P3)

“I just had to believe that it can and does help, and in a way, let poke under the skin, so to speak, to get to those painful things.” (P12)

The participants stated that the seminar was an intensive processing of their previous experiences and emotions. The seminar was described as a great rollercoaster of feelings, as there were a lot of emotions present during the processing of previous experiences, from crying to relief and laughter. The seminar had many group discussions, and the participants expressed that empathizing with the feelings of others sometimes felt heavy. As there were many emotions present during the processing, the participants described that throwing oneself in was important and that they just had to allow the feelings to come and trust that going deep into their experiences and emotions was safe.

“I didn’t expect that seminar to be so full of emotions, three days total crying and also after a little bit.” (P3)

“It was like that kind of turbulence and tumult, you kind like exposed to those other stories in a way, you have to cry your own things and other people’s things and think about them and go through that own mill, it was heavy.” (P11)

The participants described that their participation was emotionally rewarding. As the seminar progressed, the change in oneself and the others was described as visible. The participants felt that their core was reached during the process. They also stated that feeling strong and crying together was purifying after so much time spent hiding their feelings.

“It was exciting to notice that change in myself during those three days and then in those other people too. It was just insanely fascinating and interesting.” (P10)

“Even though it’s a bit of a rolling in those griefs, it’s somehow like a ... At least after those three days, even though I was tired and strained going through that, I felt like cleaner.” (P2)

3.1.2 The atmosphere and arrangements supported the personal process

The participants described that the group dynamics in the seminar were intimate. The atmosphere felt caring, and everybody was able to open up about their previous experiences. All concentrated on the mutual experience and were equally valuable, as there were no uniforms or roles present.

“That feeling in there... The warmth, humanity and that. That security in that situation. Really felt that there you can open up yourself.” (P5)

“Any excess hatched away. We were there at that moment and, above all, present.” (P4)

The arrangements were described to be gripping, meaning that the overall seminar experience kept the participants engaged. The participants felt that the discussion topics were interesting and that the program had necessary and well-timed pauses. The closeness to the natural environment was described as soothing and safe, and the peace of one's own room was pointed out to be very important in processing all of the emotions and seminar experiences.

"My rhythm went with the way the seminar was built. Just at the moment, when it seemed that it is too much now, that it is too hard to go through those things of one's own and others', it turned into seeking answers and people had those appointments with a psychotherapist. Then you got some new direction for that hustle and bustle. Then you would go with that. Just in the moment when it feels like this is enough, there was something next. It was so easy for me to be part of it." (P4)

"I have never been in such a well-organized and well-thought-out thing. Everything was somehow so timed and otherwise so well planned that it was absolutely awesome to be present. The topics were really interesting and good, and at least I had nothing negative." (P6)

The participants pointed out that the professionalism could be felt during the seminar. The professionals were described as well qualified, and the small groups of participants as carefully chosen to form a safe discussion atmosphere. The peer support instructors were described as experienced professionals, and the overall activities were thought to have been well controlled.

"The good spirit was a success, so-called safe environment was created, and all the people who were included in it, like the leader of the seminar and the peer support people, they were such a success. They understood what they were up to and what they were doing." (P2)

3.2 What kind of impact did the seminar have on the participants?

3.2.1 Structure for the past traumatic critical incident experiences

The participants explained that the seminar allowed them to accept their past critical incident experience. They felt that the critical incident experience had been dealt with and that they were able to control their emotions while speaking about it. The participants also pointed out that after the seminar, the overall feeling toward the past traumatic critical incident had turned into pride, because they realized that they had been able to perform under such circumstances.

“Those monsters I have had there for a long, long time, now they are... They are memories. Not good memories but they are memories. I can live with them.” (P2)

“I noticed that it was so much easier to talk about than before. It doesn’t come as such emotional storm. Or it wasn’t a drowning tsunami when I started talking about it. It was a surprisingly mundane thing for me.” (P4)

“I dealt that gig completely. There’s nothing to deal with anymore. Then I realized those other things about work and about me also. That was damn great. For example, I realized that I would like to be good and successful at work – I suddenly realized that oh hell, I have had a big successful gig already, on which I can already rely on, like yeah! I changed the feeling about that gig completely. It was a shitty gig. I kept it aside so I don’t have to remember it. I wished that I would not need to discuss about it. But now, I have told many people about it. It turned like into a medal, I did the job well.” (P5)

The participants stated that they possess better self-knowledge since the seminar, particularly because they were able to detect previous blind spots related to the critical incident. They described that they understood the impact of cumulative stress and were able to connect the dots between the critical incident experience and life situation in that time of the incident. Participants also pointed out that they had gained understanding of somatic symptoms and also realized the connection between the critical incident experience and their childhood, meaning the reasons why the incident affected them so much.

“If you think, all the guys here and everywhere have that kind of hard stuff. I left to wonder how in terms of work, I thought about it, and I noticed that those things are not entirely due to work. Then I started to think why I have even though the things that came from work. Yes, it has made it easier for me to understand that they do not even come (from work). This has made it easier to do the job.” (P1)

“Then we got past that gig to youth, childhood, those events and talked about those, (hel she) said that do you see, you were a little-and then this little-there at the gig, do you see the connection there. It took me a while but then I was like, yeah. It was a pretty amazing thing. I also learned about myself.” (P5)

3.2.2 Enthusiasm toward work and the workplace

The participants explained that they have experienced professional growth since the seminar. They described that they have gained confidence in their ability to face any work missions and are able to perform as the experienced professionals they are during such missions. They also pointed out that the seminar restored their ability to be mentally present during their work missions, meaning that they felt that they could interact and cope with new mental loads.

“It (work missions) does not cause the anxiety that existed at some point. I have performed more at the level of which I really am.” (P3)

“One three day reset has been done and I think it will be easier to take the load again.” (P2)

“Meeting those people as people and giving... I’ve sometimes talked that a gig at its best is when you give something of yourself and get something from a patient or client for yourself. It’s been nice to somehow get deeper back into the interaction.” (P4)

The participants described that since the seminar, they have been eager to develop mental health-related processes in their workplace. They have been seeking ways to eliminate stigma in their workplaces and understand the importance of sharing thoughts and feelings. They also explained that they have also been encouraging their co-workers to share their thoughts and feelings with others.

“Now we have started to do it so that we don’t ask do you want to talk about it, we start it and if you don’t (need it), it stops very soon, but you don’t need to ask for anything anymore. –So that any young man or someone does not need to stand up and say I want it, because it might lead to problem where (he/she) thoughts how my career is going to be if I already in this stage start to think I need help to deal with this. – It may lead to crooked looks like wait a moment should that guy go somewhere else if this is so heavy? You know?” (P9)

“I’m always looked my co-workers like how are they feeling mentally, but now after, there has been even more that, like oh, I see that you also have some load... And I have been more active to ask if they have some sorrows. When I can clearly see that someone is having a bad day. Yeah, but don’t ask anything more. And then I’m saying well, can we talk about something else? Yeah, let’s talk.” (P11)

3.2.3 Increased mental health, wellbeing and stability

The participants described that thanks to the seminar, they have accepted their own mental health needs. They have realized that mental wellbeing is important, and that seeking further treatment now feels natural. Since the seminar, they have not felt ashamed of their feelings. They also described that since the seminar, they understand that there are and can be limits, and that one cannot carry or take on too much of a mental load.

“And the fact that if I have a need, then I will go to occupational health and talk about it with the therapist. It was eye-opening. Unfortunately I have thought that it’s not for me, that I’m a tough enough dude. That it’s something for people who are so weak. It’s not like that. I have been so wrong about that too. It’s not fucking like that. It’s just a conversation with a person, a real conversation. With confidence.” (P5)

“To acknowledge and accept my own shortcomings. Not like reproaching myself that for fuck sake can’t you do this or that. But precisely the fact that I, even though I’m kind of a Batman, the fact that I have and I have to have limits. I have to have the right to stick to my limits and say I can’t and still be accepted with it. It is. Or I can’t stand it, it feels too bad, or it feels too hard, so I can draw a limit and will not stretch myself indefinitely. At some point, I have to admit that for one reason or another I can’t go any further. There is a mental or physical limit, or just a situation against my own world of values. I have learned to wave like a hammer of mercy.” (P4)

“I take care of everyone close to me, but from who am I really collecting a load from? Not anymore... I just don’t let myself to take it anymore.” (P2)

The participants explained that participating in the seminar improved their coping skills. They stated that they feel able to open up and that they have gained knowledge about how to prepare oneself mentally for hard work missions. They also pointed out that they are able to draw a line between work and home now, and in times of need are able to utilize the stress-relieving techniques they learned during the seminar.

“Like I said I have been really bad to speak or to open up, now I could claim that... I might speak about things I have not spoken at all before. Like even I notice when I start to talk about something like that and be like wow, really?” (P9)

“There would probably not be a situation ahead where I would freeze or have such an effect because of that previous traumatic experience that it would freeze me. If a similar situation comes, then it might not... It would not somehow lock me or led to that I would not know how to act. That kind of benefit I notice pretty clear. For basic work.” (P7)

“I can return to the state of mind I got from there, and to the feelings now when I know it is possible and it exists, I can return to that mode. It’s maybe one, well that’s a tool. It’s like concrete that it kind of evoked a feeling that was a bit already forgotten. I know it is there, now I can use it later.” (P8)

The participants described that they have experienced mental healing since the seminar. The overall feeling was described as calmness and lightness. They explained that since the seminar, they have been more courageous in life and have felt confident of a brighter future.

“I have had better mood and been calmer. Above all, I am much calmer after this seminar, I have had positive effects, I have been able to be with my –, and I am much more present and involved in all the hustle and bustle. I feel like I have a little more energy and feel better.” (P8)

“It gave strength to personal life. Being a little stronger, got that strength in it. There are different things, I have always known that in some way people are different and have own ways to react to different things and so. It gave that kind of additional reinforcement to your own stuff that you have noticed over the years – Have been a bit lost and looking for your own place and thinking what you should do with your life in the future. What should I start doing – But after this, I just thought that damn, yes I will start something, yes I still want to, I still try something. Like I’m old but not that old yet.” (P1)

4 DISCUSSION

This study examined the participant experiences and impacts of the first Finnish three-day-long Post Critical Incident Seminar for rescue and emergency medical service personnel, which took place in the fall of 2019. The research question “How did the participants experience the three-day seminar?” was answered with two main categories: (1) The personal process was filled with emotions, and (2) the atmosphere and arrangements supported the personal process. The main categories contained a further 6 categories and 22 sub-categories. The research question “What kind of impact did the seminar have on the participants?” was answered with three main categories: (1) Structure for the past critical incident experience, (2) enthusiasm toward work and the workplace, and (3) increased mental health wellbeing and stability. The main categories contained a further 7 categories and 24 sub-categories.

Overall, the participants felt that the Post Critical Incident Seminar was a very positive experience. The combination of lectures, peer support groups, and therapy sessions with the atmosphere and other arrangements seemed to be enjoyable, which can be supported by the study of Sparn [17]. The personal processes during the seminar as described in this current study were not studied in the previous two studies regarding Post Critical Incident Seminars. However, based on the current study, it can be concluded that the overall settings of the seminar allowed the participants to safely dive deep into their own feelings and thoughts. The participants praised the group dynamics and the professionalism of the seminar.

In the study by Sparn [17], the participants endorsed fewer symptoms of post-traumatic stress, depression, and anxiety over time from before the seminar to the six-month follow-up after the seminar. In more detail, Sparn’s study had another follow-up point at two months post-seminar, and the scores were improved more rapidly during the first two months and the less rapidly toward the six-month follow-up point. In the current study, the interviews were conducted three to six weeks after the seminar, and due to qualitative approach, several impacts could be revealed, as per the descriptions given by the participants themselves. The acceptance of the past traumatic critical incident experience might be one of the most substantial results of the current study, and was described by all of the participants. The law enforcement officers in Lamphear’s [16] and Sparn’s [17] studies and the rescue and emergency medical service personnel in the current study can all be considered as first responder professions. Thus, the participants in these three studies are not that different in terms of possible traumatic critical incidents at work. In summary, these three studies together show the benefits of the seminar and highlight the need for it among these professions. Further

studies with control groups and longer follow-up times would provide important information about causal relationships and maintenance of the positive impacts.

A recent systematic review and meta-analysis showed that EMDR is clinically efficient in the treatment of PTSD [21], which is likely associated with the impacts that participants experienced related to the seminar. In a study by Lamphear [16], the participants were divided to two groups, only one of which received EMDR, but otherwise, the seminar was similar. Both of the groups reported significantly lower scores post-test (6 months post-seminar) than pre-test (pre-seminar), providing further evidence that the seminar is effective in reducing the traumatic stress symptoms among law enforcement officers. However, the role of EMDR in terms of the impacts of the seminar is still unclear. In the study by Lamphear [16], the two groups were too different at the pre-seminar point, and thus accurate conclusions related to EMDR could not be made. However, in turn, the three studies show that the current structure with EMDR is efficient.

Peer support is one of the key elements of the Post Critical Incident Seminar. The importance of sharing has been recognized in previous studies among rescue and emergency medical service personnel from the viewpoint that receiving social support is relevant in the processing of traumatic critical incident experiences [1,4–15]. The Post Critical Incident Seminars among law enforcement officers consists of peer support from officers who have previously participated to the seminar themselves. Sparn [17] concluded that the presence of such peer support may have a significant role in the reduction of participants' symptoms and the enjoyment of the seminar experience. Lamphear's [16] conclusions support this. The participants of the current study described their opening up of their experiences in various ways, with several further impacts. It is possible that both the other participants and the peer supporters (who were partly law enforcement officers, as this seminar was the first among the studied professions), as well as the overall atmosphere of sharing, are needed to achieve the impacts described in this study. However, this phenomenon requires further studies, which should examine in more detail the role of the peer support and other participants in terms of the participants' own personal processes.

The qualitative data of Sparn's [17] study revealed strong statements that seemed to reflect transformative experiences concerning the thoughts and feelings about the traumatic critical incidents among the participants. The findings of this current study support this, as the participants described receiving structure for their past traumatic critical incident experiences, with changed and more comprehensive thoughts about it. Nevertheless, the reasons behind reaching such results were not revealed in this study or in the previous studies. Thus, the overall Post Critical Incident Seminar experience should be more closely examined, but the

currently available studies offer some starting points for understanding this phenomenon. For example, the structure of the seminar was lauded by the participants. This, combined with the opening up of experiences, lead to the conclusion regarding the successful timing of the different themes of the seminar. The first day was mainly about sharing the traumatic critical incident experiences and becoming familiar with the others and the atmosphere. Thus, the possible barrier toward sharing was perhaps overcome during the first day, and also intensive processing was occurring from day one. When the therapy sessions began on the second day, the participants may have been ready to dive deep into the roots of the traumatic critical incident experience. Also, Lamphear [16] brought up the overall setting of the seminar and its design, as suitable for the needs of the participants, reflecting these in the seminar's impact.

The results of this current study showed many aspects of better functioning since the seminar. The participants experienced mental healing and professional growth, and also improved their coping skills. In the study by Lamphear [16], the Post Critical Incident Seminar was described with the aim of helping law enforcement officers to reach their full potential. The findings of the current study support this description, despite the different target professions, as the participants felt growth in their professionalism and their ability to perform in subsequent critical incident situations. Studies support the associations between work performance and experiencing stress during work and the role of repeated traumatic critical incident situations [5,6,12], highlighting the need to ease the load of the previous experiences.

However, an organizational culture that stigmatizes vulnerability and mental health needs has been recognized as a big barrier in seeking treatment after a traumatic critical incident among the professions in this study [22,23]. A healthier, non-stigmatizing work culture also needs managerial support. For example, an Australian study by Bryan et al. [23] among fire and rescue service managers showed that managers who feel confident about discussing mental health-related topics with their staff were also more likely to do so, and that non-stigmatizing attitudes toward mental health needs were also relevant in making contact [23]. These culture-related aspects also came up in this study, but the current study also suggests that increasing knowledge about mental health needs can break at least some of these barriers, thus bringing said mental health needs to a more normal level. This finding was also supported in the study by Sparr [17]. As a continuum, Lamphear [16] pointed out that the favorable impacts of the seminar may be associated with the fact that the seminar has been designed for the specific professionals, with the culture perhaps not open to outsiders. Thus, the experience is mutual among peers, and the positive effects may spread to benefit the whole culture as the seminar participation and its impacts accumulate.

In the current study, the participants described very clearly that they were eager to eliminate stigma in the workplace and to encourage their colleagues to share their thoughts. Increasing overall knowledge seems to be crucial. Similarly, in the study by Bryan et al. [23], the authors stated that increasing managers' mental health knowledge could help in building such workplace culture that truly accepts the mental health needs among these professions. As a conclusion, normalizing mental health needs and making multiple treatment options available among these professions are important worldwide.

4.1 Methodological Considerations

This study was based on the interviews of the 12 participants of the first Finnish three-day-long Post Critical Incident Seminar for rescue and emergency medical service personnel. The research process and the ethics of this study were approved by ethical board of the South-Eastern Finland University of Applied Sciences.

The main strength is that all of the participants of the seminar agreed to participate in this study, but still, the actual number of the informants is a limitation in terms of forming generalizable conclusions.

This study adopted a qualitative approach. The absence of quantitative measurements and more time points after the seminar in order to measure the impacts of the seminar are limitations. However, the large number of direct quotes from the interviews helps in understanding and following the inductive analysis process. Removing specific mission- or person-related words from the direct quotes was carried out in order to ensure the anonymity of the participants. It is also a strength that the author did not receive or read the previous studies regarding Post Critical Incident Seminars among law enforcement officers until a few months after finalizing the analysis; thus, the results of these studies by Lamphear [16] and Sparn [17] could not affect to the analysis process or categories created—and yet, the results of all three studies support on another.

The background information about the participants was scarce. It is a limitation that the exact information regarding the quality and severity of the previous traumatic critical incident experiences, for example, the possible PTSD diagnoses, were not available for use in this study. This affects the conclusions that can be made about the impact of the seminar.

Sparn [17] pointed out that as the participants enjoyed the Post Critical Incident Seminar, as they felt it to be a positive experience, and as they encouraged its use in the future, they

may have wanted it to appear as though the seminar had a larger impact than it actually did. This thought is similar in terms of the participant experiences in the current study. In addition, the interviewer was a member of the organizing team of the seminar, “one of them” (i.e., a similar professional background to the participants), and was present at the seminar; thus, they were well-known among the participants. The interviewer was chosen to be someone other than the author due to the very personal and intimate topic of the study; thus, the familiarity of the interviewer was seen as a benefit in terms of the distance interviews, and it guaranteed total anonymity for the study, as the author had no contact with the participants. Also, in Sparr’s [17] study, the interviewer was a member of the organizing team of the seminar instead of the researcher. However, this relationship might encourage the participants to highlight the positive experiences and impacts of the seminar.

These possible limitations must be taken into account when interpreting the results. The need of further studies with a control group setting is evident in order to make more reliable conclusions about the impact of the Post Critical Incident Seminar.

4.2 Conclusions

Based on the results of the current and previous studies, participation in the Post Critical Incident Seminar seems to be a highly efficient and positively experienced way to handle previously unresolved traumatic critical incident experiences. The seminar had further positive impacts on the participants’ wellbeing, mental health, work ability, and overall functioning.

The results encourage the organization of regular seminars so that rescue and emergency medical service personnel who have been exposed to traumatic critical incidents during the course of their work can participate. However, more research is needed about the actual seminar experience, its different themes, and their associations with the overall impact, preferably with multi-professional participants, long follow-up times, and the presence of a control group.

Keeping in mind the prevalence and incidence of traumatic critical incident experiences and the consequences of these experiences among rescue and emergency medical service personnel, it is extremely important to utilize every possible way to ease the subsequent negative effects. The ways in which to do this could be related to knowledge improvement and non-stigmatization, as well as professional treatment systems for preventing and managing traumatic critical incidence experiences with versatile treatment options, including the Post Critical Incident Seminar.

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APPENDIX 1. Figures

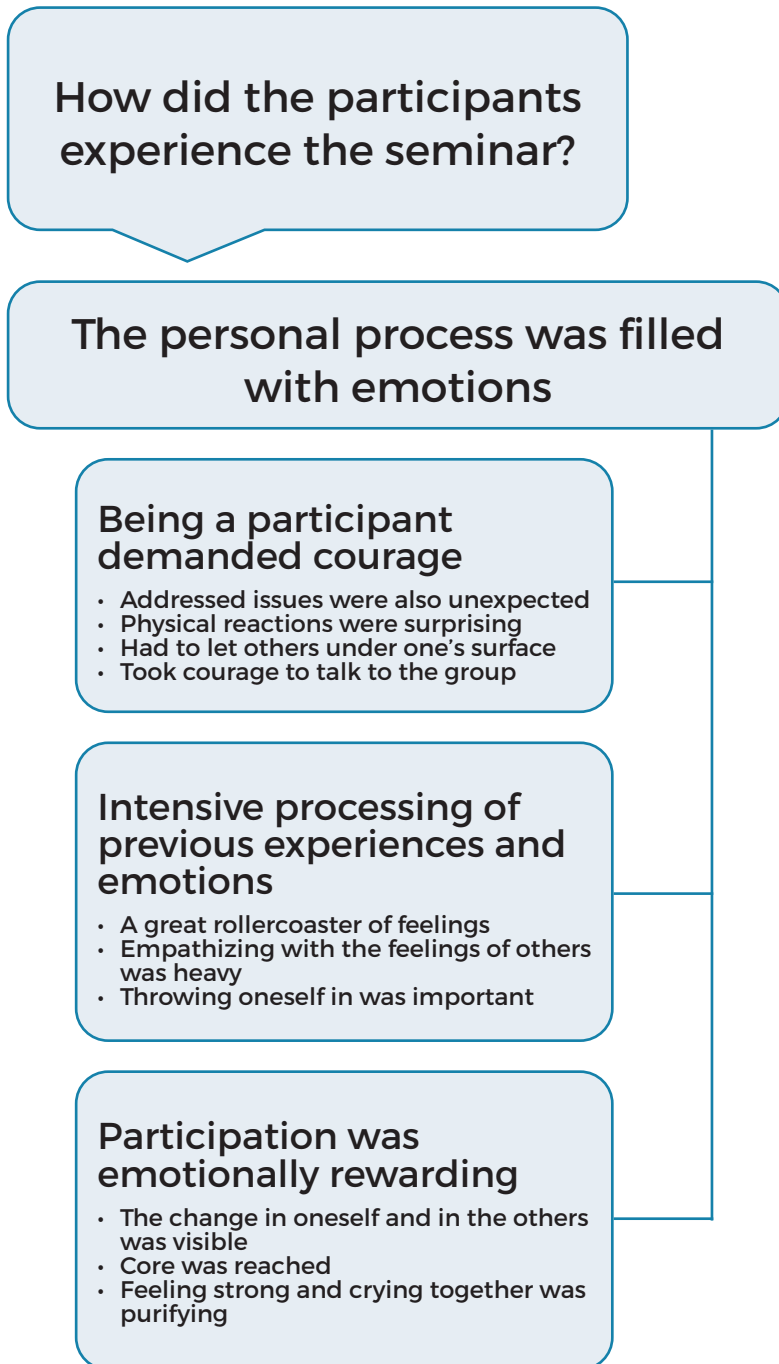


Figure 1. Experiences regarding the Post Critical Incident Seminar 1/2.

How did the participants experience the seminar?

The atmosphere and arrangements supported the personal process

Group dynamics were intimate

- The atmosphere was caring
- Everybody was able to open up
- Everybody concentrated on the mutual experience
- All were equally valuable

The arrangements were gripping

- The discussion topics were interesting
- Pauses were necessary and well timed
- Being close to the natural environment was soothing and safe
- The peace of one's own room was useful for processing

Professionalism could be felt

- The professionals were well qualified
- The small groups of participants were carefully chosen
- The peer support instructors were experienced professionals
- The overall activities were well controlled

Figure 2. Experiences regarding the Post Critical Incident Seminar 2/2.

What kind of impact did the seminar have on the participants?

Structure for the past traumatic critical incident experience

Acceptance of the past traumatic critical incident experience

- Feelings that the traumatic critical incident experience has been dealt with
- Emotional control while speaking about the experience
- Feeling proud to have been able to perform under such circumstances

Better self-knowledge through the detection of previous blind spots

- Understanding the impact of cumulative stress
- Ability to connect the dots between the traumatic critical incident experience and one's life situations at that time
- Understanding of somatic symptoms
- Realization of the connection between the traumatic critical incident experience and one's childhood

Figure 3. The impact of the Post Critical Incident Seminar 1/3

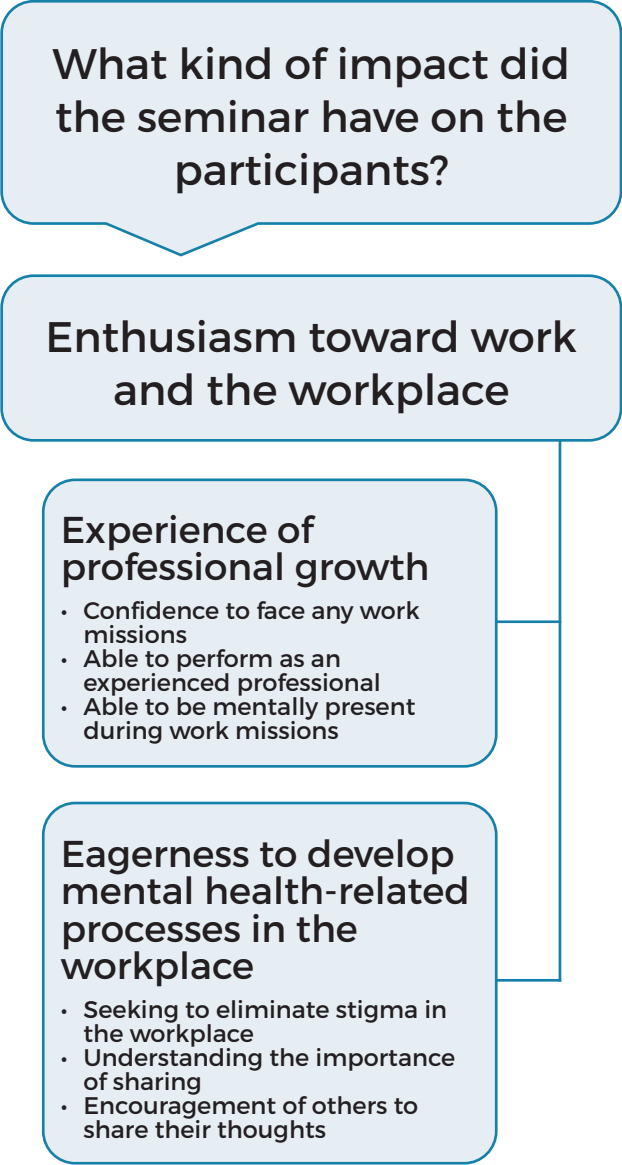


Figure 4. The impact of the Post Critical Incident Seminar 2/3

What kind of impact did the seminar have on the participants?

Increased mental health wellbeing and stability

Acceptance of own mental needs

- Realization that mental wellbeing is important
- Seeking further treatment feels natural
- No shame to feel
- Understanding that there are and can be limits

Improving coping skills

- Ability to open up
- Knowledge of how to prepare oneself for hard work missions
- Drawing the line between work and home
- Ability to utilize stress-relieving techniques

Feelings of mental healing

- Overall feeling of calmness and lightness
- More courageous in life
- More confident that the future is brighter

Figure 5. The impact of the Post Critical Incident Seminar 3/3

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- 1 *Srujal Shah - Kari Dufva: CFD modeling of airflow in a kitchen environment. Towards improving energy efficiency in buildings. 2017.*
- 2 *Elias Altarriba: Öljyn leviämisen estimointi arviointitaulukoiden avulla osana operatiivista öljyntorjuntatyötä Saimaalla. 2017.*
- 3 *Elina Havia - Jari Käyhkö (toim.): Fotoniikkasensori- ja korkean teknologian kuvantamisen demonstrointi metsäbiojalostamon hallintaan (FOKUDEMÖ). 2017.*
- 4 *Justiina Halonen - Emmi Rantavuo - Elias Altarriba: Öljyntorjuntakoulutuksen ja -osaamisen nykytila. SCAROIL-hankkeen selvitys öljyntorjunnan koulutus-tarpeista. 2017.*
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- 12 *Susan Eriksson: Digital applications in youth employment services. 2019.*
- 13 *Hilla Sumanen – Jaakko Harkko – Jouni Lahti – Eeva-Leena Ketonen – Olli Pietiläinen – Anne Kouwonen: Nuorten työntekijöiden työkyky ja työterveyshuollon palvelujen käyttö. 2020.*
- 14 *Marja Moisala (toim.): Paikkariippumattomuus nuorten tulevaisuuden palveluissa maaseudulla. 2020.*
- 15 *Hilla Sumanen: Experiences and impacts of the post critical incident seminar among rescue and emergency medical service personnel. 2020.*



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