

Survivors' experiences from a train crash

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Abstract

Rarely described, are people's lived experiences from severe injury events, such as train crashes. The number of train crashes named disasters with ≥ 10 killed and/or ≥ 100 non-fatally injured grows globally and the trend shows that more people survive these disasters today than did so in the past. This results in an increased number of survivors needing care. The aim of the study was to explore survivors' experiences from a train crash. Narrative interviews were performed with 14 passengers four years after a train crash event. Qualitative content analysis was used to analyze the interviews. Experiences were captured in three main themes: 1) Living in the mode of existential threat describes how the survivors first lost control, then were thrown into a state of unimaginable chaos as they faced death. 2) Dealing with the unthinkable described how survivors restored control, the central role of others, and the importance of reconstructing the event in order to move forward in their processing. 3) Having cheated death shows how some became shackled by their history, whereas others overcame the haunting of unforgettable memories. Furthermore the result shows how all experienced a second chance in life. Experiencing a train crash meant that the passengers experienced severe vulnerability and a threat to life and interdependence turned out to play a crucial role. Focusing on helping other passengers on site was one way to regain the loss of control and kept the chaos at bay. Family, friends, and fellow passengers turned out to be extremely important during the recovery process why such closeness should be promoted and facilitated.

Keywords: Content analysis, experiences, interviews, nursing, train accident

Introduction

Several studies exist focusing on psychological or psychiatric perspectives of survivors of severe injury events using different kinds of quantitative methods (Bergh Johannesson, Lundin, Fröjd, Hultman & Michel, 2011; Rosser, Dewer & Thompson, 1991; Wang, Tsay & Bond, 2005). However, research from a nursing science perspective which focuses on survivors experiences of having experienced severe injury events, is scarce (Isovaara, Arman & Rehnsfelth 2006; Roxberg, Burman, Guldbbrand, Fridlund, & Barbosa de Silva, 2010).

A study of Swedish survivors of the Asian Tsunami 2004 (The National Board of Health and Welfare, 2008) showed that survivors' outlooks on life after such an event were weakened for some but strengthened for others. One's own strength as well as help from family, friends, and work colleagues were all important factors which helped the survivors deal with the resulting stress following the horrific incident. Additionally, visiting the incident site helped the survivors' process what had happened to them. Råholm, Arman and Rensfeldt (2008) showed that the significance of the Asian Tsunami was deeply existential and was described as suddenly having to struggle between life and death while devoid of any control. This sudden upheaval of one's universe occurred in the context of absolute paradise which abruptly became the scene of total chaos and forced the survivors to form a new outlook on life.

Survivors' reactions are considered severe immediately after a tragic event but most reactions become more subdued within one year (Connor, Foa & Davidson, 2006). Bonanno (2004) means that resilience in the face of trauma, is more common than is often believed and there are multiple and sometimes unexpected pathways to resilience which means that several survivors only show minor and transient disruptions after traumatic events. On the other hand additional studies of long-term effects of traumatic events reveal that survivors continue to experience effects of the trauma five (Holen, 1990) to ten years later (Hull, Alexander & Klein, 2002) and some have lifelong effects even 25-50 years later (Lazaratou et al., 2008; Lundin & Jansson, 2007). According to Arozenius (1977) as many as 75% of the survivors of a train disaster had some kind of mental or psychosomatic disorder and the majority of the survivors thought regularly about the traumatic event even after a year had passed. Further, we deduce from other studies of injury events involving trains that post-traumatic stress symptoms was present (Hagström, 1995; Lundin, 1991; Raphael, 1977; Selly, King, Peveier,

Osola, & Thomson, 1997). The most obvious impact on the survivors was of having been close to death and survived. Nightmares and intrusive thoughts became problematic for the survivors. After the event, difficulties traveling by train and fear noises similar to those of train travel were also common (Hagström, 1995).

Globally, the rapid development of train traffic, including rising speeds and increasing traffic in the world results in a growing trend of train crashes which is named disasters if ≥ 10 are killed and/or ≥ 100 are non-fatally injured. Nevertheless, the average death rate is decreasing resulting in a larger number of survivors (Forsberg & Björnstig, in press), who probably have lasting affects causing distress and suffering. Despite the need to holistically consider and understand survivors' experiences, we found no studies focusing on surviving passengers' experiences of a train crash. Valuable understanding which can be used to improve the care and treatment of future survivors can be gained from such studies. Knowledge obtained about factors that affect their lives, regardless of the severity of sustained physical injuries or disabilities can be used to alleviate their suffering and help them move on with lives. Thus, the aim of this study is to explore survivors' experiences from a train crash.

Method

The study context

Figure 1 & 2 in about here.

In September 2004 in Nosaby, Sweden, a truck fully loaded with pellets was stuck at a level crossing on a railway track when an oncoming three-carriage passenger train crash straight into it. The first carriage was thrown off the track and rotated 180° after impacting a tree. It then overturned. The second and third carriages partly derailed but remained on the railway embankment. The crash resulted in deaths of the train engineer and one passenger. Forty-nine passengers were injured of which four were severely or critically injured (Swedish Accident Investigation Board, 2006).

Participants

The participants included in this study are survivors of the Nosaby train crash. The police authorities supplied us with all available records on 69 passengers and two crew members who were on the train. Out of these 65 were asked to participate as three were dead (two in the crash and one later on) and three were of foreign nationalities and therefore could not be contacted. Fourteen survivors agreed to participate in the study, 12 women and two men aged 20-64 years (at the time of interview). Table 1 shows participants' background data such as age, injury, location in the train, signs of PTSD, and decreased general mental health.

Table 1 in about here.

Data collection

Narrative interviews (Riessman, 2008) were carried out four years after the event. An interview guide including a few semi-structured questions was constructed according to pre-crash, crash, and post-crash phases (Haddon & Baker, 1981).

The interviews began with the question: "Please, tell me about where you were going," followed by "What happened during and after the crash?" Participants told their stories without restraint. Sometimes the narratives were supported with follow-up questions such as, "What do you mean?," "How did you feel?," "What did you experience then?" This was done in order to clarify the content of the interviews (Mishler, 1986). If not mentioned spontaneously questions from the interview guide, such as "How was the scene inside the train after the crash?," "What type of injury did you sustain?," and "How did the crash influence your life?" were asked. The interviews were performed face to face (except for one which was performed by telephone) and lasted 30 - 80 minutes. The interviews were recorded and were transcribed verbatim resulting in approximately 200 pages of 1.5 spaced text. At the conclusion of the interview in addition to their narratives background data, such as age, their carriage location and physical injuries and injury mechanisms (from hospital records) was obtained. For further background data they also filled in two validated self-evaluation scales; PTSD Check List – Civilian Version (PCL-C) for estimation of post-traumatic stress reactions (Blanchard et al., 1996; Weathers, Litz, Herman, Huska & Keane, 1993) and the General

Health Questionnaire-12 (GHQ 12) (Goldberg et al., 1997) to evaluate participants' general health.

Data analysis

The transcripts were analyzed using a qualitative inductive content analysis which means that the text itself generated ideas for concepts and themes. Both authors read and re-read the transcribed text in order to acquire a broad overview of the passengers' experiences and the consequences of those experiences on the passengers. Repeated readings led to divisions of meaning units that were condensed while preserving the core content. The condensed text was then abstracted and given codes. This was done by the first author and when uncertainty arose, it was discussed with the second author. Together the two authors ensured that the coding was in line with the meaning units and with the text as a whole. The codes were then sorted into preliminary sub-themes and after content comparison within and across them they were combined into nine separate sub-themes. In the next step, three main themes were formulated based on the text as a whole, the content of sub-themes, and our interpretation of the underlying meanings (Graneheim & Lundman, 2004). The procedure was then repeated in order to refine and validate the chosen structure. Example of the content analysis is seen in Table 2.

Table 2 in about here

Signs of PTSD or not was decided on according to what Weathers et al., (1993) suggested as cut-off for PCL-C (≥ 50). When measuring signs of health we used a common cut-off of (≥ 3) for impaired health condition on the GHQ-12 (Connor et al., 2006) (Table 1).

The analysis has been performed in a logical and systematic way by both authors who have read, discussed, and worked with development of the sub-themes and themes. The sub-themes and themes were then checked by going back to the text and reviewed in light of our sense of what was narrated. The internal logic and consistency are verified by quotations from the text (Polit & Beck, 2006). We assume our findings are transferable to other similar contexts where people's lives are threatened, but especially relevant after having been involved in a train crash. However, several interpretations of narrated texts are possible and can be valid even if they are different (Krippendorff, 2004).

Ethical considerations

This study is in accordance with the principles outlined in the Declaration of Helsinki (World Medical Association, 2008) and was approved by the Regional Ethics Committee at Umeå University (Dnr 09-143 Ö). Information about the research study was given to the passengers by letter with a request to participate. They were informed that participation was voluntary and of their right to withdraw at any time without explaining why; but no one did. If the passengers chose to participate, informed consent was given by either phone or e-mail. Individual interviews were recorded after permission was given and the interviews were conducted at a location in agreement with the participants. Psychiatric help was available, however, no one asked for this assistance. This remained true even though powerful emotions surfaced when recounting their experiences. Participants were guaranteed confidentiality; therefore fictive names have been used throughout the article.

Findings

The analysis of the text revealed three themes which illuminate the survivors' experiences from a train crash; 1) Living in the mode of existential threat, 2) Dealing with the unthinkable and 3) Having cheated death. Themes and sub-themes are illustrated with quotations. Table 3 shows the results presented in three themes with three sub-themes respectively.

Table 3 in about here.

Living in the mode of existential threat

This theme explores what the passengers experienced at the moment of the crash incident and the few minutes immediately following. Here, the participants described how they were abruptly thrown from a sense of normalcy into a sense of uncontrollable chaos. As the uncontrollable event unfolded they found themselves in a surreal situation, which they did not know if they would survive.

Losing control. Early morning sun shone through the train windows and the weather was lovely. Everything was normal. People were on their way to work or school and others were on their way to their long anticipated vacations. Students were laughing, others were talking, or napping, and a few were reading when the tranquility was suddenly interrupted. The train made an abrupt movement and everything started to shake erratically. Distress was experienced as the train started to lurch and simultaneously loud noises emerged from the train. The gut-wrenching moment continued as the train engineer pulled on the brakes. The train shuddered, squeaked, and abruptly decelerated. Helplessness overwhelmed the passenger as they were exposed to this unexpected turn of events.

Gabriella: I sit and write in my diary and, like, "Oh what fun, we'll go on a trip!" Then it just slams and it just stops. It's like I experience it like a mountain face, rock hard as well. Bang! Stop! Dead stop! And we look at each other and we do not understand anything.

Being in unimaginable chaos. Fear and uncertainty overwhelmed the passengers as they sat inside the train without anything to hold on to when the train was thrown back and forth. Unimaginable chaos ensued as passengers were hurtled into tables, chairs, and into each other as though they were inside a tumble-dryer. At the same time luggage, unsecured objects, and loose interior became projectiles inside the confined carriages. It was like riding a chaotic rollercoaster that never seemed to end. The train finally came to an abrupt stop and shouts of panic turned into a chilling silence. The carriages had turned into an unidentifiable place of pandemonium while rays of sunshine emerged through the haze of pellets and dust. The situation was surreal and described as waking up in a movie.

Mariah: Things flew against me. There were people and seats that I was thrown into and against. I was pushed to and fro and I thought; now we have gone out in the field or into the woods. Suddenly, it struck again and we were thrown the other way and I wanted something to hold onto but there was nothing (--) We just went with it, like in a tumble-dryer. You just go with it and get thrown into things. I wanted off this ride! Finally, I lay on my back and the soil just kept coming over me.

Facing death. Passengers were trapped inside the carriages and were fearful of further potential threats to their safety. Silence turned into hysteric screams. People were screaming "we are going to die, we're dying" and the screams reverberated throughout the crashed train. Passengers became overpowered by uncertainty as to whether they would make it out of the train alive or not; a moment that was described as the worst thing you could ever experience. A thousand different thoughts emerged while they experienced proximity to their own death. Their life flashed in front of their eyes and pictures of family members appeared escalating deep anxiety and fear of dying. Some were catatonic while others were hyperventilating.

Those who managed to find their way out from the wrecked train were covered with dust and looked like ghosts with wide eyes.

David: When you are forced to think the thought that now might be the end ... there are strong emotions that arise, it is the worst thing you can experience ... experiencing some form of close to death or death anxiety.

Dealing with the unthinkable

The content of this theme takes place a few minutes after the crash, but the experienced length of the phases varied between the participants. For some, this will be a lifelong process. This phase includes how the passengers deal with their experiences of something that prior to the incidents seemed unthinkable and how they by various strategies initially regained the loss of control. It also clarifies the importance of others in the processes and the need to understand what they had experienced.

Restoring control. Strong needs to regain control by the survivors became visible, such as the importance of collecting their belongings. They became obsessed with finding their backpacks, shoes, lenses, or daily planners despite the insignificance of the items in light of the situation. It was an act that passengers found both surprising and totally sickening in the middle of it all. Another important act was to help fellow passengers by staying close, talking to them, retrieving lost possessions, or helping them out of the carriage. Some, even those who did not consider themselves as calm, started to talk soothingly to passengers in need, asked how people felt, and comforted those who cried. They tried to calm others by e.g. telling those passengers who remained trapped to take deep breaths and explaining that rescuers were on the way. By focusing on another person they were able to regain control and keep themselves composed. Having a task to accomplish drew the focus away from the chaos and closed out the noise. It kept them from falling apart emotionally.

Mariah: I'd lost my shoes. They had fallen off, but of course you try to gather your stuff (laughs) in the middle of it all. I found a bag that was mine and one more shoe. I also wanted to find my fellow passengers that had been sitting by the table. I had a need to check if all were in their seats and if not, to see where they were.

Erica: She was badly injured, I focused on her. She was very scared and worried. I felt that I had to take care of her so I stayed with her, it was the most important task and then I got some sort of peace within me.

Centrality of others. The need to be with others; for instance, fellow passengers, family, friends, or hospital staff turned out to be of central importance to the passengers in dealing with the unthinkable event. Strong needs of closeness were prominent and were perceived as providing support, wellbeing, and security while the participants were in the state of uncertainty. It forced them to comprehend that they were still alive and was even described as life saving. When loneliness was experienced, it was expressed in terms of despair, anxiety, and panic. Being close to someone also signified that the participants were able to think of something other than the crash. The chance to distance the mind from the injury event was highly appreciated by some.

Gabriella: She really became my support in this. If I think about the trip without her... then I do not know... She sat and held me. She was my support and she held me and almost made me realize that I was alive. She was really my support in all of this.

Amanda: One of my daughters had to stay with me in the hospital, she slept with me, she showered me, did all the nursing, she took care of me. On Sunday I found out that she had to move out, and then I said that in that case, I discharge myself in this condition. Security and trust of having relatives close was more important than what could possibly happen to my heart, so my family had to stay.

Most of the participants also experienced a strong need to talk about the event over and over again. They explained that they poured out their experiences to persons close to them continuously and doing so was very helpful. On the other hand, it was also described as difficult to talk with people who had not had the same experience since the participants felt that others could never understand and imagine the traumatic event. Conversations with professional therapists helped some participants in processing emotions and were very important to the healing process.

Jane: I really earnestly needed to talk about it a lot. I talked about it all the time. It was not that I had problems with people asking; it was just that ... I wanted to talk about it with those who had been involved. We talked the whole time and went through what we remembered over and over and over again ... I remember, we dwelled on it for ages...

Reconstructing the turn of events. Understanding how everything had happened by visiting the site of the train crash was one way to deal with the incomprehensible event. Viewing the crashed train and the crooked track afterwards created a completely different perception. For some it was essential to revisit the crash site and made it easier to understand what had happened and to process the trauma. Those who did not get the opportunity to observe the crash site expressed disappointment and jealousy as they felt they were missing something in the process that others got.

Nora: Then we went to the scene ... The teachers followed us there ... It felt really nice because it was a completely different view ... It was not the same as when you were there last and it felt like it was good for one to see it all, right there where it happened last Friday and this is how it looks today. It helped to get it off the mind and it felt great to have been there.

To follow the news was another thing that was helpful in the process of reconstructing the events. Watching every newscast and saving each article from the newspaper made it easier to get holistic understanding of the experience. One participant, however, did not take note of the media information from the crash and she expressed having an enormous regret for not having done so. Another participant had to cover up pictures of the crashed train since it was too tough to watch.

Hannah: It was really useful to follow the media. Then you could see, check out more how everything looked. And, you probably switched it off when you were at the accident site, somehow it was nice to watch on television and in newspapers to see what you had experienced (--).

Arranged joint group meetings organized in some municipalities were helpful when reconstructing the crash. It was valuable to see and listen to the investigators explaining and illustrating how the carriages had been thrown around and rotated. During these gatherings it was possible to collect more elements of understanding from fellow passengers that had been missing in one's own "puzzle." Identifying who and where other passengers had been sitting was also satisfying and fulfilled a need. Additionally it helped the passengers to put words to what they had experienced.

However, those who had been sitting in the first carriage had seen the worst effects of the crash and had been exposed to greater threats; consequently they told more serious stories. This made those in the second and third carriages think that they had nothing to add to the conversation even though they had had their own chaotic experiences. Despite less physical injuries, they still had lived through the same life-threatening train crash and felt mentally ill. Not everyone was able to attend the arranged group meetings; thus missing pieces and unanswered questions remained. On the other hand, not everyone desired to participate in the group meetings. They felt it was "too much" and that they had no need for it.

Amanda: The meeting with the others was very good. All the perceptions we had of each other, the different pieces of the puzzle, meant we got a better overview of what we had gone through. The investigators also drew a picture of the railway carriages, which made it possible to write down who sat in the first carriage and so on.

Having cheated death

Lifelong memories are created by having survived a major event such as a train crash. Those experiences and memories affect most aspects of life to varying degrees and lengths of time. Most survivors are tremendously grateful to have survived such an unthinkable event. However, the survivors also seemed to divide themselves into two groups when mentioning what the event has meant for them. While some felt stuck in life and haunted by the past, others spoke of how the experience had made their lives richer.

Being shackled by history. The crash affected all participants in some degree. Passengers were classified as physically disabled to varying extents. Nonetheless, most of them were also affected psychologically e.g. by fear of train travel. In their minds they find themselves anticipating the train to derail and rail sounds cause unpleasant feelings to resurface. Participants also expressed that they continue to be on edge all the time. The sound of a creaking bicycle, the slightest lurch, or a sneeze can cause them to tremble with fear. Several participants mentioned being haunted by nightmares about the crash; even several years after the crash. They spoke of their lives as if divided into two parts; before and after the train crash. Some feel that their lives after the train crash are hindered because fear prevents them from doing the things they did before the crash. Living life in this post-crash manner has been described as exhausting.

Beatrice: I still wake up at night sometimes and I have everything on the mind. I have a very hard time with trains. When the train comes, I usually try not to be so close to the track, or so. I stand with my back against it so I will not see when the train comes. Otherwise I get anxious and it is extremely painful in my chest. I have not traveled by train yet. I will never go by train again (--). I have come as far as up on a platform when the train was not there. I wanted to run away at once, it was very anxiety loaded (--). It has affected my life very much indeed, both with pain and psychologically.

Overcoming the haunting of unforgettable memories. As time passed powerful memories about the crash began to fade allowing the participants to come to terms with the traumatic event and move on in daily life. They no longer thought about the event on a daily basis but memories could still be triggered by specific events similar to the train crash. Different strategies were mentioned for moving forward. One way was to write everything down and then allowing it to gradually fade away. Individual psychotherapy was also attributed as the reason for recovery. Other reasons given for recovery were the importance of interacting with family, friends, and fellow passengers. One passenger determined to turn the tragedy into a positive experience and chose not to be afraid; she refused to become a victim. Some expressed feelings of guilt as a hindrance for moving on too easily.

Gabriella: I feel like I recovered pretty fast. Of course the first night memories were strong but then it faded very fast and I felt that I could keep up a normal life again. I found it pretty easy to cleanse it out.

Getting a second chance. Both those who became shackled by history and those who moved on with life expressed gratitude for receiving a second chance at life and happiness for being alive. To return home after the crash was like being reborn and was described as a fantastic experience. Afterwards the participants felt they appreciated family, friends, and life itself more than before the crash and they became more humble in life. Things that could be considered insignificant, such as a small laughter and feeling the warm sun became amazing experiences. Another positive effect of the crash was that it allowed the participants to meet many nice people they otherwise wouldn't have.

Nora: You appreciate life a lot and all the people you have around you even more (--). I see life in a completely different way and appreciate life so much.

Discussion

The aim of this study was to explore survivors' experiences from a train crash. The findings revealed that the themes; living in the mode of existential threat, dealing with the unthinkable, and having cheated death, illuminated the passengers' experiences in an area which prior had not been explored and had not been described in nursing research.

Living in the mode of existential threat involved feelings of losing control, being in unimaginable chaos, and facing death; experiences that are in line with previous research from the Asian Tsunami of 2004 (Råholm et al., 2008). The research from the Asian Tsunami showed that fear of loss of control over life dominated one's feelings and the unexpected struggle between life and death which took place in a state of total chaos. From another train crash, Hagstöm (1995) showed that the most obvious impact on the survivors was the experience of having been close to death.

Restoring control through being close to others and reconstructing the turn of events was how dealing with the unthinkable was accomplished. We found that the passengers had intense needs to resume the lost control by, for example, focusing on helping fellow passengers. This concurs with Rehnfeldt and Eriksson (2004) who found that it was important for survivors to have specific tasks to perform, such as searching for and helping fellow human beings. In another Swedish train crash powerful needs to help others at the

crash site were also described (Arozenius, 1977). Focusing on assisting fellow passengers could be one way of what Bonanno (2004) calls a pathway to resilience. These findings can give ideas for how to help survivors by helping others.

Our study reveals the centrality of others which has also been shown in other studies (Bergh Johannesson, Michel, Arnberg & Lundin, 2006; Bowles, 1991; Rehnsfeldt & Eriksson, 2004). Råholm and et al. (2008) found that the first step towards progression and recovery is to be seen and validated by another person. Raphael (1977) pointed out that survivors had overwhelming needs to narrate the injury event in detail. Experiences from the Asian Tsunami (Roxberg et al., 2010) also showed that recounting their stories to someone willing to listen helped the survivors to regain meaning. In the present findings the importance of meeting others who had the same experiences became visible and is in line with other findings confirming that social support is crucial to survivors recovering from serious incidents (Bonnano, Galea, Bucciarelli, & Vlahov, 2007; Roxberg et al., 2010). In the present study high value is shown to be placed on the authorities explaining and illustrating what happened during the crash. It was considered essential for putting together the survivor's puzzle of the event. To join group meetings was important to many of the participants as is also emphasized by Råholm and et al. (2008).

Psychological support after train injury events has been proven to be crucial (Bowles 1991; Lundin 1991). Re-telling their story over and over can be seen as one path of mourning (c.f. Ricoeur, 1988). On the other hand, there were those who felt that the group meetings were not a positive experience. Their experiences were downgraded in comparison to others. This concurs with other studies which have shown that debriefing may exacerbate or lead to the development of long-term psychological symptoms following traumatic events (Wessley & Deahl, 2003; Rose, Bisson, Churchill & Wessely, 2009).

The participants in this study expressed a need to reconstruct the turn of events by visiting the crash site. Similarly, one third of respondents in the Asian Tsunami study had visited the affected area and almost all of them viewed this as important (Michel, Berg Johannesson, Arnberg & Uttervall, 2009). Comparable results have also been demonstrated by other researchers (Heir & Weisaeth, 2006; Roxberg et al., 2010) and further narrated by Bowles (1991). These positive effects are considered to be related to an increased understanding of the disaster events (Michel et al., 2009).

The meaning of having cheated death implies a memory for life but can take different paths. Being shackled by history means that passengers had difficulties to moving forward constructively in life and they suffered from e.g. anxiety, nightmares, and depression. These findings are supported by Bergh Johannesson et al., (2006) who found that some individuals have difficulties overcoming traumatic memories. Bonanno, Galea, Bucciarelli & Vlahov, (2006) also pointed out that some individuals will be affected in varying degrees over time. Participants in this study were also sensitive to loud noises and were afraid of traveling by train. Similar findings from other train injury events have also been found (Arozenius, 1975; Bowles, 1991; Hagström, 1995; Singh & Raphael, 1981). According to Arozenius (1975), almost all of the survivors affirmed that the train crash remained constantly in their thoughts 13-18 months later. Similarly, other studies (Roxberg et al., 2010) have shown that negative consequences of road trauma last many years after the injury event. On the other hand, there were participants in our study who expressed that they were able to move past the event quite quickly and leave almost everything behind i.e. overcome the haunting of unforgettable memories. Most people affected by major events do not suffer any long lasting harm (Norris, Murphy, Baker, & Perilla, 2004; North, Kawasaki, Spitznagel & Hong, 2004). Positive consequences from trauma experiences are also confirmed in many other studies (Linley & Joseph, 2004; McMillen, Smith & Fisher, 1997; Tedeschi & Calhoun, 1995; Updegraff & Taylor, 2000).

Most of the participants felt that they were given a second chance in life irrespective of how they managed their memories; a result that concurs with what Roxberg et al. (2010) found in their study. Survivors of the Asian Tsunami explained how they initially became anxious about almost everything, but later on became more attentive to caring for family and friends and developed a deep gratitude for being alive.

Objective perspectives, e.g. from rescue staff injury databases and survivor questionnaires dominate research reports related to injury events. Few studies exist with a subjective perspective, e.g. narratives revealing survivors lived experiences. These two approaches should not be considered to contradict each other because they complement one another with different understandings and knowledge about the same phenomena. Our findings, however, are that the self-estimation scales (GHQ-12 and PCL-C) seem to differ from the subjective narratives. According to these scales five of 14 (36%) suffered impaired general mental health (GHQ- 12) and two out of 14 (14%) suffered PTSD (PCL-C) (Table 1).

However, we saw in our results that there were more participants who expressed a negative impact from the train crash than what emerges from the result of the two tests. Based on the participants own narratives it appears that almost all had near death experiences during the crash. Additionally, many were shackled by history, a result worthy of consideration.

A prominent occurrence in this study was that most of the participants experienced the event as unclear, uncontrollable and insusceptible which according to Enander, Larsson and Wallenius (1993) are key dimensions to understand and explain individual reactions when exposed to disasters. Additionally, many of the passengers perceived a threat to their lives during the crash which according to Ozer, Best, Lipsey and Weiss (2003) is one predictor for PTSD. Experiencing a life threat during uncertain circumstance may thus explain why so many of the survivors were shackled by history in present study.

Another thought that comes to mind is; those who suffer severe injuries from major events receive more attention than those who suffer relatively minor physical injuries. Those with severe physical injuries receive more understanding and help than do their counterparts who are observed to have lesser physical injuries. The result may be that those observed as less seriously injured are overlooked and may not get sufficient help. We suggest a more thorough assessment of those with seemingly mild physical injuries as their need for support might be equal to those with more severe physical injuries.

The findings in this study can also be viewed from other perspectives to reach a deeper understanding of the results. Something that stands out in this study is the participants' experience of having been close to death; a situation Jaspers (1970) calls an existential limit situation. That is, the transition from one phase to another. This transition challenges the persons' identity and identity development. Swanson & Tripp-Reimer (1999) point out that nurses and other health professionals are in a position to promote well-being during periods of transition. By formulating interventions and strategies it is possible to facilitate positive transition and minimize health risks. The implication of this is nonetheless questionable. There are other theories (Bruner, 2004; Erikson, 1998; Lieblich, Tuval-Maschiach & Zilber, 1998; McAdams, Josselson & Lieblich, 2006) relating to the discussion of development of identity and how it is connected to a social environment. In the present context it can, in both the acute phase and in the long run, be seen as the importance and centrality of others. Put in other terms, Frankl (1963) claimed that we are able to understand the world around us and

find meaning in life through interaction with others. In our study the interdependence emerged as extremely important. It appeared, however, that it was primarily family, friends, and fellow passengers who played an important role in recovery; and not medical personnel. Therefore, such closeness with important others should be promoted and facilitated.

Our findings correlate with those of Frankl (1963) who showed how some people can deal with difficulties in a constructive way, whereas others succumb and give up when they run into difficulties. Furthermore, he argued, that you can choose an approach and that it is possible to extract a fundamental meaning out of suffering. Antonovsky (2005) takes a similar position showing that some people can handle heavy stress better than others and some may even grow from it. This position can be seen in the present study in those who appeared to overcome the haunting of unforgettable memories. Others became ill as a result of what happened and concurs with our findings showing that those who were shackled by history felt relatively unhealthy.

Methodological considerations

Studies have pointed out that e.g. severity of injury (Blanchard et al., 1996; Selly et al., 1997) can influence how you feel in the aftermath. Other factors associated with recovery can be age, race/ethnicity, education, level of trauma exposure, social support, frequency of chronic disease, and recent and past life stressors (Bonanno et al., 2007). None of the factors mentioned above have been considered in the present study since the study group is too small to make any general conclusions. However, it is realistic to assume that these factors influenced experiences of the crash and further the capacity to handle and recover from the crash.

The proportion of women and men among the interviewed is about the same as the proportion of passengers on board the train (83% vs. 86 % women) respectively. One reason for the low number of participants (22%) is likely because they had to actively contact us if they desired to be included, which meant that we may have lost possible participants if we had been able to contact them. We cannot ignore that our results would probably have been slightly different if more men had participated in the study because it is known that women generally have a higher risk for greater distress when exposed to e.g. traumatic events (The National Board of Health and Welfare, 2008; Berg Johannesson et al., 2006). However, life

itself can become more meaningful to women than for men after a traumatic event (Bergh Johannesson et al., 2006). Women may be more likely to experience greater levels of personal growth than what men would (Tedeschi & Calhoun, 1995). Clearly, it would have been useful to have greater variation in the sample, e.g. more men and more passengers participating. This would be especially true for survivors from the third carriage. Perhaps, if we had the greater variation in participants, it would have given us a greater variation of experiences resulting in broader understanding.

Out of 65 possible participants 14 participated. Passengers who were less affected by the train crash were possibly less motivated to participate in the study as they may have thought that they did not have much to contribute. On the other hand, the situation could also be reversed, i.e. the low number of participants could be because passengers who were still deeply affected and did not want to participate but preferred to avoid participation. However, the latter is less likely because a comparable study following the Asian Tsunami of 2004 (Hussain, Weisaeth & Heir, 2009) revealed that non-participation correlated to lack of interest and to thinking that one did not have relevant experiences.

Conclusion

Passengers who have been involved in a train crash have experienced severe vulnerability and a threat to life irrespective of the estimated severity of the train event, for example measured in number of fatalities and severely injured passengers. In our study the interdependence emerged as important and was proved by focusing on helping other passengers on site. By doing so, they regained the loss of control and kept the chaos at bay. The need for family, friends, and fellow passengers during the whole recovery process turned out to be crucial as well.

Implications

The centrality of others, especially family, friends and fellow passengers, turned out to be central to ones well-being why such closeness should be promoted and facilitated. It may also be helpful to utilize survivors who want and are able to help others on site after an injury event. This could constitute a way of coping both for them and for those whom they are helping. It is important to listen to the survivor's narratives regardless of their physical injury

since survivors with minor injuries or those who do not show signs of e.g. PTSD may otherwise be overlooked, thus risking their health and prolonging their suffering.

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Figure legends - Photographs and figures

Figure 1 & 2. The train crash in Nosaby, Sweden 2004.

Pictures from: The Swedish Transport Administration.

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Figure legends - tables

Table 1. Participants' background data

Table 2. Example of the analysis

Table 3. Themes and sub-themes

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Table 1. Participants' background data

Passenger (fictive names)	Age (at time of crash)	Carriage location (1-3)	Physical injuries and mechanisms (according to hospital charts and interviews)	PTSD* diagnose (≥ 50 points)	Impaired general health (≥ 3 points)	Injury severity (MAIS)**
Amanda	54	1	Hit by table on the left side of her chest and lost consciousness. Became wedged between loosened interior and buried by pellets. Was cyanotic and not breathing when she was dug up. Suffered from lack of oxygen which caused a brain injury. She also suffered a myocardium contusion, pulmonary bleeding and rib fractures.	No	Yes	3
Beatrice	40	1	Hit her head, passed out and got stuck under the rubble. Got transient numbness in the legs and compression fracture on Th12. Incurred open nose fracture, a laceration on the scalp and a severe laceration from the mouth to the left ear. Had contusions to the abdomen (explorative laparotomy was performed with no pathological findings).	Yes	Yes	3
Cecilia	41	1	Stood up and ran backwards before the collision and woke up trapped from the waist down. She was under carriage interior pieces and loose debris. Got a closed radius fracture, an open femur and patella fracture. There were also a number of tendon and nerve injuries. She suffered a traumatic pneumothorax; several rib fractures, and multiple lacerations on the scalp.	Yes	Yes	3
David	23	2	Was thrown into a table and into the armrest. Suffered bilateral lung contusions, superficial contusion hemorrhage in the lumbar and hip, as well as pleural and internal bleedings in the lumbar and hip.	No	No	3
Erica	33	2	Loose carriage interior fell from above and a fellow passenger flew towards her and took the whole table with her when it stopped. Received a distortion of the vertebrae L4-L5 and muscle damage in the neck and back.	No	Yes	1
Felicia	37	1	Was thrown around when the carriage overturned. Suffered lacerations on the hands, arms and shoulder. Had contusions on the left shoulder, hip, leg and knee.	No	No	1

Gabriella	26	2	Became unconscious when she flew into the table in front of her followed by a fellow passenger landing on top of her. Suffered respiratory problems, contusion of abdominal wall, muscle injury, and bruising.	No	No	2
Hannah	18	2	No physical injuries.	No	No	0
Inez	64	3	Flew out of the seat and hit her head. Fainted and woke up on the floor with pain in the neck and forehead, she also received superficial head wounds and a tender scalp.	No	No	2
Jane	22	3	Parts of the roof broke and fell down. She struck her head and got a hematoma behind the left ear and jaw. She also got bruises on one arm and both legs.	No	No	1
Kelly	27	2	Rib fractures, neck contusion, lacerations on the lower leg and bruises.	No	No	2
Liam	48	1	Flew into the table in front of him and became trapped by loosened seats, tables and pellets. Contusion on the right side of the thorax and superficial lacerations on the left side of the forehead and left leg.	No	No	1
Mariah	47	1	Was thrown over the table and then into the chairs. Became trapped by several seats, a table top and other passengers. Suffered a concussion, distortion of the cervical spine, rib fracture, and hematoma on chest; arm; leg; and shoulder. She also received contusion to the abdomen.	No	Yes	2
Nora	16	3	During the crash she held herself against the seat back and her knee hit the table resulting in knee and back pain.	No	No	1

* Post Traumatic Stress Disorder

** Injury severity, i.e. the Maximum Abbreviated Injury (MAIS) represents the individual's most severe injury. AIS = 1 is a minor injury (wound, sprain); AIS=2 a moderate injury (concussion, fractures), AIS=3 a serious injury (femur fracture, spleen rupture) whereas AIS=4-6 are severe, critical and maximum injuries. (International Injury Scaling Committee. Abbreviated Injury Scale. Barrington IL: Association for the Advancement of Automotive Medicine; 2005).

Table 2.

Meaning unit	Condense	Code	Sub-theme	Theme
<p>You sit and talk, you are not at all prepared for that (the crash) to happen. It was so totally unexpected (--). It was just a dead stop and then we just slid, then it started to fall down, the interior from the top and she flew towards me. People screamed very much and it was absolutely hysterical. I remember thinking "does this ever end?"</p>	<p>It was totally unexpected, I was not at all prepared and is was absolutely hysterical</p>	<p>Unpredictability</p>	<p>Losing control</p>	
<p>I feel like tightness in the chest, like a blast wave. I feel like when I run, my arms are seemingly everywhere, just like when you blow away a spider or something like that ... and then ... I wake up lying on my back, it's so sunny outside and all this dust that came from seats and furniture... it is like curtains over ... over the air and then I think, what kind of movie is this? I understood nothing. It was as if one has fallen asleep in front of the TV and then you wake up in a movie (--)</p>	<p>I understood nothing, it was like waking up in a movie</p>	<p>Surreal threat</p>	<p>Being in unimaginable chaos</p>	<p>Living in the mode of existential threat</p>
<p>I have never in my whole life had such panic as I had then. To just stand there and hyperventilate and wonder ... Will I die now, Will I die? I've never been in such a situation before where I needed to ask myself the question if I would survive.</p>	<p>Never had such panic, I was hyperventilating and wonder, will I die now?</p>	<p>Death threat</p>	<p>Facing death</p>	

Table 3.

Living in the mode of existential threat	Dealing with the unthinkable	Having cheated death
Losing control	Restoring control	Being shackled by history
Being in unimaginable chaos	Centrality of others	Overcoming the haunting of unforgettable memories
Facing death	Reconstructing the turn of events	Getting a second chance

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