Work-related Crisis Exposure, Psychological Trauma and PTSD in News Journalists

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Table of contents

Abstract

Background: Journalistic work in crises includes a variety of tasks: reporting on the scene, editing material in the home office, or broadcasting live. Journalists may be both primarily and secondarily exposed to potentially traumatic events during work assignments. The aim of the present studies was twofold, (1) to investigate how previous exposure to potentially traumatic events during work or in personal life is related to current trauma-related distress (post-traumatic stress disorder, secondary traumatic stress, depression and burnout) in journalists, and (2) to study journalistic work, event-related distress, and occupational risk factors in a specific type of crisis-related assignment, the Finnish school shootings in 2007 and 2008.

Method: The studies were conducted on the basis of two samples. For studies I-III, a sample of 503 Finnish news journalists was collected via a web-based survey. In studies I and II, a quantitative approach was implemented; the third utilized a mixed methods design. Study IV was of qualitative nature, with a sample of 60 news journalists, of which 28 had worked with Finnish school shootings and the remaining 32 with shootings in the US. In all studies, participants from all types of media, and with national or regional distribution, were represented.

Results: A crisis assignment with many gruesome details covered during the last year was clearly related to more current distress. However, the analyses of relationships between range of covered assignments and current distress showed less clear results. Lifetime trauma history in personal life was related to all types of measured current distress (Study I). A mediating effect of depression was found on the predictive values of (1) range of potentially traumatic events covered on the scene and PTSD, as well as on (2) potentially traumatic exposure in personal life and PTSD (Study II).

Journalists working with the Jokela school shooting (2007) did not show more severe PTSD symptoms than a control group five months after the incident. Close to 30% of the participants experienced peri-trauma distress during the assignment. A personal past including more exposure to traumatic events predicted more peri-trauma distress. Described short term reactions included a variety of symptoms, such as sadness, fear, and shock. Symptoms surfaced after the assignment was finished (Study III). Similarly, in Finnish journalists working with the Jokela and/or Kauhajoki shootings (2007-08), distressing short-term distress was described in half of the sample, in a variety of ways. Long-term symptoms included intrusive memories, physical arousal, and avoidance, and were present in 20% of the sample. Risk factors for severe long-term distress included the incident reminding of one's own life, being a parent, or experiencing occupation-specific ethical dilemmas during the assignment (Study IV).

Conclusions: A majority of news journalists are likely not to experience severe long-term psychological distress after crisis-related work. Stressors influencing the level of distress may include factors occurring previous to, during, or in the aftermath of the event. Some factors are universal, while others are specific for the occupational group. Providing journalists with basic psychological trauma knowledge in combination with ethical best practices for crisis work may promote a better understanding of individual reactions, and provide tools for avoiding additional harm in first-hand victims meeting the media.

Keywords: Burnout, depression, Jokela school shooting, journalism, journalism ethics, Kauhajoki school shooting, PTSD, secondary traumatic stress, trauma history

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In high school my student counselor advised me to choose between two main topics for my future: to work either with psychology or then to become a journalist. As I grew older, I always got back to her words, but could never quite decide. I started studying psychology, and then added journalism. After finishing off my studies, I did become a news journalist. But after a few years of everyday routines and a share of crisis assignments, a thought slowly growing in the back of my mind could no longer be ignored. How could it be that journalists, though knowing that they will at some point work with a crisis, were so poorly prepared to handle the psychological effects their work might have on those they meet as well as themselves? This thesis is a first attempt at answering that question, and I guess my student counselor was right: I should work with either psychology or journalism, or why not both?

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1. Introduction

A crisis is commonly defined as a sudden, unexpected situation, usually including loss of a shocking or catastrophic nature. Loss can include loss of lives, for example death of a family member, extensive material loss such as losing one's home, or loss of trust, when for example being physically attacked. Being in crisis may disrupt the involved person severely; the emotional, cognitive and biological effects of the crisis situation require a personal response that may exceed the coping capacity in some individuals, regardless of previous experience or personality characteristics (Hobfoll, 1989; Lindemann, 1944; Ministry of Social Affairs and Health, 2009; Regehr, 2011; Reyes, 2008). Due to their unexpected nature, crises of common interest are usually covered closely by news media, and Brayne (2007, p. 1) defined the symbiosis as follows: "trauma is at the heart of news" (McFarlane & van der Kolk, 1996; Raittila & Koljonen, 2009).

Crisis-related work assignments are commonly understood as a natural possible part of the work description of news journalists. Not all journalists will cover international large-scale events during their career, but most will be involved in working with one or more crises of a more regional nature. For journalists, preparing the story often includes a combination of taking in the unfolding event with their own eyes and meeting those affected at the scene – and in some cases even becoming a direct first-hand victim. Depending on the situation at hand, the journalist may also be indirectly exposed to the event, by interviewing the bereaved via phone or editing distressing material in the newsroom (Idås, 2011; Keats & Buchanan, 2009; Newman, Shapiro, & Nelson, 2009; Simpson & Coté, 2006; Weidmann & Papsdorf, 2010). Hence, as any other person exposed to a distressing event, the journalist will be at risk for developing crisis-related psychological trauma.

1.1 Journalistic work and ethics in crises

To understand the nature of the possible traumatic exposure where a news journalist might be at risk, a description of relevant work tasks is necessary. A journalist in a crisis situation may be working with a complex pattern of tasks, and the issue needs to be approached from several viewpoints (Brayne, 2007; Englund, 2008; Hight & Smyth, 2003). Starting with the type of media, tasks and deadlines vary as to whether content is produced for newspapers, radio, television, or the web. For example, content for printed products or live broadcasts have a set deadline, while web content during an unfolding crisis is produced and updated continuously. Furthermore, in the current media landscape, a journalist is often expected to provide material for multiple formats, such as web as well as radio content from the same event (Raittila et al., 2008).

In addition to the type of media, the type of work assignment needs to be taken into account (Newman et al., 2009; Simpson & Coté, 2006; Weidmann & Papsdorf, 2010). The primary types of tasks connected to crises are related to working on the scene of the event. If having such an assignment, a journalist typically carries out multiple tasks more or less simultaneously. Work might include interviews with survivors, bystanders, or authorities, live broadcasts, or situational crisis scene descriptions. If not working on the scene, a news reporter might be located at the home office during the crisis. Central work tasks in these cases include live broadcasts, phone or live interviews, fact checking and background research. The third main assignment type, usually present during crises of a larger magnitude and of national importance, is journalistic work away from the home office, not at the crisis scene, but in a regional context in one's own community. Tasks might then include live broadcasts or interviews with survivors returning home, indirect victims such as relatives, or

local authorities. Furthermore, in the crisis aftermath a journalist can move between these three main assignment categories from one day to the next.

Crisis news journalism in Finland has a strong tradition of implementing ethical best practices within the profession (Juntunen, 2009; Raittila & Koljonen, 2009). Four broad levels of interacting ethical regulations and best practices in relation to crisis journalism may be identified. First, Finnish legislation sets the main working conditions for mass media. Legislation of central importance to crisis journalism includes everyone's right to privacy (section 10) and the freedom of expression and right of access to information (section 12) included in the Constitution of Finland (Ministry of Justice, 1999), and the Act on the exercise of freedom of expression in mass media (Ministry of Justice, 2003).

Second, an occupation-specific interpretation of the legislation has been collected in the Ethical Guidelines for Journalists. Of specific interest from a crisis-related viewpoint are paragraphs 27-30, focusing on the right to privacy in victims of crises. The guidelines are the basis of a self-regulatory system, and are signed by virtually all media organizations. In short, any citizen can report a possible guideline violation to the Council for Mass Media, which after a hearing can impose sanctions to an organization if necessary (Council for Mass Media, 2011; Union of Journalists in Finland, 2011).

The third level of ethical best practices reflects the media organizations' internal rule books. To the author's knowledge, no detailed overview exists of the number of Finnish organizations with an active practice of implementing an internal book of conduct. According to unpublished interview transcripts collected for study 4 in this thesis, practices vary from having no internal guidelines to having published rule books on the web, openly accessible to the public. One example of the latter is the STT-Lehtikuva news agency, providing detailed information on, for instance, age limits of interviewees during crisis reporting (STT-Lehtikuva, 2012).

Finally, a fourth level of best practices is constituted by activities, guidelines and tip sheets provided by national and international non-profit organizations, aimed at crisis journalism (Raittila et al., 2009). Such material often combines basic ethical practices included at the levels mentioned above with more specific facts within the interest sphere of the publisher, which is subsequently of importance for journalists. Two examples worth mentioning are the Guide on how to interview and photograph a child, provided by the Finnish Central Union for Child Welfare (2011), and the best practices guidelines provided by the international Dart Center for Journalism & Trauma network (Brayne, 2007; Hight & Smyth, 2003; Teichroeb, 2006).

1.2 Crisis and psychological trauma

The most commonly referred to definition of a psychological trauma is provided by the fourth version of the Diagnostic and Statistical Manual of Mental Disorders, DSM-IV-TR (American Psychiatric Association, 2000), as a part of the criteria for acute and posttraumatic stress disorder (ASD and PTSD) (Weathers & Keane, 2008). Psychological traumas are defined as including having "experienced, witnessed, or being confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others" (ASD/PTSD Criterion A1). Furthermore, the event should have provoked a response involving "intense fear, helplessness, or horror" in the person (Criterion A2). Examples of stressors that might lead to a psychological trauma are exposure to events such as natural disasters, combat or inter-personal violence. Having experienced a psychological trauma is considered as a first threshold for the diagnoses of ASD and PTSD. For more information on the disorders, see Tables 1 and 2 and the chapters below.

According to Reyes (2008), being in crisis is not identical with having a psychological trauma. However, a person in crisis is at high risk for developing a psychological trauma, since a crisis situation often includes exposure to an A1 stressor, and an individual response in accordance with Criterion A2.

At times, the concept of psychological trauma is not used in accordance with the aforementioned definition, but rather in conceptually confusing ways. Weathers and Keane (2008) point out how the concept might varyingly be used in reference to (1) the traumatic stressor, (2) the subjective experiences of the exposed individual, or (3) the diagnosed distress in an individual due to the exposure. Thus, a clear statement about in which theoretical context the psychological trauma concept is used should explicitly be included in studies within the area. In this thesis, psychological trauma (in short, trauma) is defined in accordance with the official definition provided by the DSM-IV-TR.

1.3 Assessment of psychological trauma history

Events that might lead to a psychological trauma and subsequent symptoms of psychological distress are defined as belonging to one of two categories, either potentially traumatic events (PTE) or traumatic events (TE) (Corcoran, Green, Goodman, & Krinsley, 2000; Norris & Hamblen, 2004; Weathers & Keane, 2008). The categorization is defined by whether the personal experience of the event fulfilled only DSM-IV-TR Criterion A1 (PTE) or both Criteria A1 and A2 (TE), following the logic that the same stressor might provoke personal distress in some individuals, but not in others (Hobfoll, 1989). Trauma history is an individual's total exposure to PTEs and TEs during their lifetime or an otherwise defined time period. In an overview of widely used trauma history assessment questionnaires, Norris and Hamblen (2004) point out that, with some exceptions, trauma history assessment tools usually focus on measurement of PTEs only.

Official recommendations on best practices for the measurement of trauma and trauma-induced stress reactions (Weathers, Keane, & Foa, 2009) state that combining trauma history with trauma symptoms is preferable, if possible within the limits of the research project. This is due to the fact that an individual's previous trauma history might affect distress reactions following exposure to a recent potentially traumatic event. In comparison with PTSD assessment tools, measures focusing on trauma history have received little emphasis when it comes to developing psychometric adequacy (Weathers & Keane, 2007). A consensus on best practices in regard to trauma history assessment is yet to be developed.

To the author's knowledge, the only presented trauma history figures for the Finnish population are the estimations provided in the Finnish Current Care recommendations (Finnish Medical Society Duodecim, 2009). Based on international studies, the Current Care work group suggests that in one year, approximately 100 000 Finns experience an event corresponding with the DSM-IV-TR traumatic event (TE) criteria.

Internationally, studies have in some cases provided figures representative for a variety of populations. In an overview of studies, Norris and Slone (2007) came to the general conclusion that when reaching adulthood, at least 25% of the population will have experienced a PTE, and at the age of 45 most people will have experienced a potentially traumatic event. In addition, Wittchen, Gloster, Beesdo, Schönfeld, and Perkonigg (2009) concluded in an overview of community studies that between 50 and 90% of the population will be exposed to at least one PTE during their lifetime.

In a study representative for the general population in Sweden (N = 1 824), 81% of the participants experienced at least one PTE during their lifetime (Frans, Rimmö, Åberg, & Fredrikson, 2005). In a study including six European countries (Belgium, France, Germany,

Italy, the Netherlands, and Spain), the corresponding figure was 64% of the sample (N = 21 425) (Darves-Bonoz et al., 2008). In a report from the American National Comorbidity Survey, Kessler, Sonnega, Bromet, Hughes, and Nelson (1995) reported a lifetime prevalence to one or more TEs of 61% among men and 51% of women (N = 5 877), while in another regional American study (N = 2 181), a similar lifetime prevalence of exposure reached 90% (Breslau, 2009).

However, as Breslau (2002; 2009) points out, trauma exposure has been measured in a variety of ways in studies, partly due to changing DSM-criteria, partly because of differences in instruments applied. Also, in some cases studies have not clearly stated how the PTE/TE terminology has been used in relation to the DSM criteria, and therefore the prevalence rates mentioned above should be interpreted with caution.

In studies of occupational groups with work assignments including exposure to potentially traumatic events (for example rescue personnel, police officers, journalists), one way to study psychological trauma history is to discriminate between personal life and work-related trauma history. Regarding journalists, to this date studies including trauma history measurement have focused either solely on work-related trauma history (Hatanaka et al., 2010; Marais & Stuart, 2005; Simpson & Boggs, 1999), or included both types (Newman, Simpson, & Handschuh, 2003; Pyevich, Newman, & Daleiden, 2003; Weidmann, Fehm, & Fydrich, 2008).

Smith and Newman (2009) have provided the most extensive overview to date of studies on trauma history and journalists. They report that most news journalists (86 – 100%) at some point have witnessed a work-related PTE, and that the most common work-related exposures were automobile accidents, fires and murders. More on the relationship between trauma history and current distress in journalists is provided below in the chapter about risk factors for PTSD.

1.4 The diagnosis of acute stress and posttraumatic stress disorder

Experiencing a psychological trauma does not automatically mean that a person will suffer from severe acute or chronic trauma-related reactions provoked by the event (Weathers & Keane, 2007). Rather, only a fraction of those exposed to a TE develop symptoms severe enough to cause a trauma-related disorder (Breslau, 2009: < 10% of cases; Finnish Medical Society Duodecim, 2009: 20–30%; Norris & Slone, 2007: 10-20%). In the current DSM (American Psychiatric Association, 2000), two psychological disorders explicitly related to exposure to a TE are included: Acute stress disorder (ASD) and post-traumatic stress disorder (PTSD).

In trauma-related research, the disorder that has received by far the most attention to date is PTSD (Weathers & Keane, 2007). In the thesis at hand, no direct measurement of ASD was included in the study design. Therefore, this subchapter starts with a definition of PTSD, while ASD will be briefly reviewed using a comparison of similarities and differences between the two disorders.

The current DSM diagnostic criteria of PTSD are found in Table 1. As mentioned above, criteria A1-A2 focus on possible exposure to a potentially traumatic stressor (PTE/TE) (American Psychiatric Association, 2000) and function as a diagnostic "gatekeeper" (Weathers & Keane, 2007). The following clusters of criteria, B-D, focus on specific groups of required persistent symptoms, usually divided into three main groups that reflect the nature of the disorder: reexperiencing the trauma, avoidance of trauma-related stimuli, and hyperarousal due to the trauma. Criterion B, reexperiencing, includes recurrent recollections of the event via for example dreams or thoughts, both of a subjectively distressing nature. The avoidance symptom (criterion C) is not limited to avoiding direct places or thoughts

associated with the trauma, but also include a more general numbing or detachment from personal surroundings. Criterion D reflects physical hyperarousal in the person, related to the experienced trauma. Hyperarousal can take the form of sleeping problems, enhanced irritability, or problems in concentrating (American Psychiatric Association, 2000; McFarlane, 2008; Wilson, 2004).

Furthermore, criteria E-F are important supplements, underlining that symptoms should prevail for at least one month (criterion E) and be of a severe nature (criterion F). Although symptoms often occur during the first three months after the traumatic exposure, PTSD can also have a delayed onset (American Psychiatric Association, 2000). A more detailed review of the theoretical basis for the PTSD A-F criteria is for example provided by Wilson (2004).

PTSD may be regarded as a psychobiological disorder (Southwick, Rasmusson, Barron, & Arnsten, 2005; Reyes, 2008; Wilson, 2004). As a response to sudden stress, the individual reacts by trying to psychologically cope with the threatening situation, and with corresponding complex automatic biological stress-induced reactions such as the "fight-flight" response. Under normal circumstances, the psychobiological readiness slowly returns to baseline activity, while PTSD can be seen as the individual staying in a state of ongoing psychological (reexperiencing) and physical (hyperarousal) readiness. A more detailed overview of the biological features of trauma-related reactions is beyond the scope of this thesis, but may be found for example in Shin and Handwerger (2009) or Vasterling and Brewin (2005).

The second psychological disorder indicated in the DSM as caused by exposure to an external trauma is acute stress disorder, ASD. Full criteria for ASD are found in Table 2. When comparing the symptom cluster with PTSD, the two disorders are closely related to each other, especially with respect to stressor criteria A1 and A2. The two disorders are separated primarily in the definition of time passed after the traumatic exposure. The time span of ASD symptoms is within one month after exposure, while PTSD symptoms should have been present for at least one month; in other words, PTSD related to the same identified traumatic event cannot occur during the same time span as ASD. Rather, initial ASD symptoms can later meet criteria for PTSD (American Psychiatric Association, 2000; Friedman, Resick, & Keane, 2007). According to a review by Bryant (2008), three-quarters of those fulfilling ASD criteria also later develop PTSD – but among all those with PTSD, only 50% have met the initial ASD criteria.

Furthermore, in the ASD diagnosis more emphasis is put on the presence of dissociative reactions (criterion B), and the amount of cluster symptoms (criteria C-E: reexperiencing, avoidance, hyperasousal) required for filling the criteria are not as broad as in the case of PTSD (Bryant, 2004; Wilson, 2004).

In the thesis at hand, due to the study design, data on stress reactions in the acute aftermath after a TE were only collected as subjective accounts, and no direct measurement of ASD was included. Therefore, this literature review includes no further emphasis on the concept of ASD.

Table 1

DSM-IV-TR diagnostic criteria for 309.81 PTSD

A. The person has been exposed to a traumatic event in which both of the following were present:

(1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others

(2) the person's response involved intense fear, helplessness, or horror. **Note:** In children, this may be expressed instead by disorganized or agitated behavior

B. The traumatic event is persistently reexperienced in one (or more) of the following ways:

(1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. **Note:** In young children, repetitive play may occur in which themes or aspects of the trauma are expressed

(2) recurrent distressing dreams of the event. **Note:** In children, there may be frightening dreams without recognizable content

(3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). **Note:** In young children, trauma-specific reenactment may occur

(4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

(5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

(1) efforts to avoid thoughts, feelings, or conversations associated with the trauma

(2) efforts to avoid activities, places, or people that arouse recollections of the trauma

(3) inability to recall an important aspect of the trauma

(4) markedly diminished interest or participation in significant activities

(5) feeling of detachment or estrangement from others

(6) restricted range of affect (e.g., unable to have loving feelings)

(7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

(1) difficulty falling or staying asleep

(2) irritability or outbursts of anger

(3) difficulty concentrating

(4) hypervigilance

(5) exaggerated startle response

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:

Acute: if duration of symptoms is less than 3 months
Chronic: if duration of symptoms is 3 months or more

Specify if:

With Delayed Onset: if onset of symptoms is at least 6 months after the stressor

Table 2
DSM-IV-TR diagnostic criteria for 308.3 ASD

A. The person has been exposed to a traumatic event in which both of the following were present:

(1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others

(2) the person's response involved intense fear, helplessness, or horror.

B. Either while experiencing or after experiencing the distressing event, the individual has three (or more) of the following dissociative symptoms:

(1) subjective sense of numbing, detachment, or absence of emotional responsiveness

(2) a reduction in awareness of his or her surroundings (e.g., "being in a daze")

(3) derealization

(4) depersonalization

(5) dissociative amnesia (i.e., inability to recall an important aspect of the trauma)

C. The traumatic event is persistently reexperienced in at least one of the following ways: recurrent images, thoughts, dreams, illusions, flashback episodes, or a sense of reliving the experience; or distress on exposure to reminders of the traumatic event.

D. Marked avoidance of stimuli that arouse recollections of the trauma (e.g., thoughts, feelings, conversations, activities, places, people).

E. Marked symptoms of anxiety or increased arousal (e.g., difficulty sleeping, irritability, poor concentration, hypervigilance, exaggerated startle response, motor restlessness).

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or impairs the individual's ability to pursue some necessary task, such as obtaining necessary assistance or mobilizing personal resources by telling family members about the

traumatic experience.

G. The disturbance lasts for a minimum of 2 days and a maximum of 4 weeks and occurs within 4 weeks of the traumatic event.

H. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition, is not better accounted for by Brief Psychotic Disorder, and is not merely an exacerbation of a preexisting Axis I or Axis II disorder.

1.5 Epidemiology of post-traumatic stress disorder

1.5.1 Prevalence of PTSD

There are large variations in available regional information on the epidemiology of PTSD. In the Finnish best practices for PTSD recommendations (Finnish Medical Society Duodecim, 2009), the 12-month incidence among the Finnish population is estimated to be 0.5%. A recent large multi-method study on 12-month prevalence of mental disorders in the European Union in 2010, including Finland, estimated that 1.1 - 2.9% of the EU-27 population, or approximately 7.7 million individuals, are affected by PTSD (Wittchen et al., 2011). In another study, representative for six European countries, 1.1% of the population fulfilled the required criteria for 12-month prevalence (Darves-Bonoz et al., 2008) and 1.9% lifetime prevalence for PTSD (ESEMeD/MHEDEA Investigators, 2004). In an overview of conducted research, Blanco (2011) estimated lifetime PTSD prevalence in Europe to be between 1.3% and 7.4% (seven studies, including the one by ESEMeD/MHEDEA Investigators, 2004) and 1.0 – 9.2% in the US and Canada (six studies).

The prevalence of PTSD in journalists has not been studied in detail. Smith and Newman (2009) collected data from some published studies in the area and provided PTSD prevalence figures of 5.9 – 28.6% among studied journalists. In a recent overview of studies Aoki, Malcolm, Yamaguchi, Thornicroft, and Henderson (2012) reported PTSD prevalence between 0 and 33%. Related to this, Newman et al. (2009) summarized that the higher prevalence rates were related to war correspondents while other groups of journalists showed rates up to 13%. However, prevalence time periods, occupational tasks and representativeness of samples varied between included studies, and hence no data representative for journalists in general can be provided.

1.5.2 Risk factors and resilience

A number of risk factors predicting PTSD have been proposed, and received varying degrees of support in studies. Risk factors do not only include factors present before the trauma, but may also be factors influencing during the event, or occuring post-trauma.

Meta-analyses and overviews have concluded that some risk factors seem to have a more central role. To begin with, risk factors include female sex, young age at the time of the trauma, a history of brain injury, low socioeconomic status or educational level, own/family psychiatric history, or previous exposure to trauma. Central risk factors influencing during the unfolding event include the nature of the event, as a crisis with more grotesque content, or one where the person was directly threatened rather than only witnessing the threat, are both linked to more PTSD symptoms. Furthermore, experienced dissociation during trauma has been proposed to be a strong predictor for later severe distress. Post-trauma exposure to additional stressful life events and low social support have been the central risk factors receiving support in studies (Blanco, 2011; Brewin, Andrews, & Valentine, 2000;

ESEMeD/MHEDEA Investigators, 2004; Ozer, Best, Lipsey, & Weiss, 2003; Vogt, King, & King 2007).

Studies with journalist samples have in some cases included the testing of risk factors for PTSD. As previously mentioned, a history of previous trauma has been in the main focus of attention. As far as trauma history in personal life is concerned, the results correspond well between studies, indicating previous exposure to be a risk factor (McMahon, 2005; Newman et al., 2003; Pyevich et al., 2003; Weidmann et al., 2008; Weidmann & Papsdorf, 2010). Studies including previous exposure via work assignments, on the other hand, have yielded varying results. The amount of possibly traumatic cases covered has, in some studies, been shown to predict more distress (Browne, Evangeli, & Greenberg, 2012; Marais & Stuart, 2005; Newman et al., 2003; Pyevich et al., 2003; Simpson & Boggs, 1999), while other studies have not been able to do so (Dworznik, 2008; Smith, 2008). Some scholars have instead found support for the theory that the nature of covered events are more important: larger amounts of distressing details experienced during an assignment predicted more later distress (Dworznik, 2008; Feinstein, Owen, & Blair, 2002; Idås, 2011; Smith, 2008; Thoresen, 2007).

In addition, some other risk factors have been identified in journalist samples. One group of factors consists of event specific details, such as working with an assignment to which one has a personal geographical connection, or an event with content reminding of one's personal life (Berrington & Jemphrey, 2003). Breaking own ethical standards while working has been suggested as a risk factor (Idås, 2009; 2010). A higher personal distress level during the assignment has also been connected to more severe long-term symptoms (Hatanaka et al., 2010). Years within the profession has been the focus of some studies, with scholars showing that inexperienced (Teegen & Grotwinkel, 2001), as well as very experienced (Simpson & Boggs, 1999), journalists are at higher risk. Also, low post-trauma social support and high levels of everyday stress at one's workplace have been shown to be risk factors (Newman et al., 2003; Smith, 2008; Weidmann et al., 2008; Weidmann & Papsdorf, 2010), as well as personality factors such as aggressive temperament, neuroticism, a negative world view or avoidant coping strategies (Marais & Stuart, 2005; Pyevich, Newman, & Daleiden, 2003; Smith, 2008). However, the number of conducted studies in the area of risk factor in journalists is still limited (Smith & Newman, 2009).

Resilience is defined as an individual's ability to maintain a stable equilibrium after exposure to a stressor such as a traumatic event (Herrman et al., 2011; Rutter, 2006). In studies of psychological trauma, such an equilibrium should be interpreted as a post-crisis adaptation to normality rather than a stable unaffectedness to the crisis, as most people show some amount of distress initially after exposure (Mancini & Bonnano, 2008; Norris, Tracy, & Galea, 2009). Further, resilience should not be mistakenly interpreted as being the same as recovery from severe post-trauma reactions. Factors promoting trauma-related resilience naturally include the absence of PTSD risk factors, but should not be limited to these only (Bonnano, 2004). As in the case of risk factors, pathways to resilience include personality as well as factors relating to personal environment and society at large (Herrman et al., 2011). Some resilience-promoting factors following loss or traumatic exposure include adaptive flexibility, personal hardiness, self-enhancement, a repressive coping style, post-event use of positive emotions, socioeconomic status, and a history of moderate exposure to adversities (Bonnano, 2004; Mancini & Bonnano, 2008; Seery, Holman, & Silver, 2010).

In journalist samples, variables mentioned as promoting resilience after trauma have to date often been interpreted as "the opposite" of risk factors. However, in addition to such risk factors, resilience-promoting factors mentioned in the literature include two main categories: individual factors such as hardiness, a general commitment to the journalistic mission of informing the public, and experiencing the event as manageable and having the opportunity to

put together a story about it; organizational factors such as managers and colleagues providing pre-trauma training and, during the event, acknowledging the journalist's work imput (Buchanan & Keats, 2011; Marais & Stuart, 2005; McMahon, 2005; Newman et al., 2009; Smith, 2008).

1.6 Secondary traumatic stress and compassion fatigue

A concept closely related to PTSD is secondary traumatic stress (STS). Figley (1995, 1999) defined STS as the stress that might occur in for example rescue personnel, police officers, psychologists or journalists, resulting from being indirectly exposed to a traumatic event, by knowing about a traumatizing event experienced by a significant other. Stamm (2012) has done extensive work with developing the STS concept, and she underlines that secondary exposure should mainly be seen as a work-related health issue.

The symptoms describing secondary traumatic stress are very similar to those present in people with PTSD, including re-experiencing, avoidance, and hyperarousal (Figley, 1995). STS and PTSD are differentiated mainly by the nature of the external stressor criterion, as post-traumatic stress disorder is related to directly exposed victims of a trauma, while STS has to do with secondary exposure. In other words, STS reflects the experience of someone who has PTSD-like symptoms caused by their work-related repeated contact with clients primarily exposed to a trauma. STS is to date not included as an established psychological disorder in central criteria manuals such as the DSM-IV.

Researchers have used other terms partly overlapping the concept of STS, such as vicarious traumatization, and compassion fatigue (Courtois, 2008; Keats, 2005; Sabin-Farrell & Turpin, 2003; Stamm, 2010b). Stamm (2010b; 2012) has provided the most comprehensive conceptual clarification to date. She proposes that the terms should be carefully divided from each other. From a trauma-reactions viewpoint, the factors compassion fatigue and secondary traumatic stress are of interest, and Stamm (2012) categorizes compassion fatigue as a more general non-measureable umbrella category of negative factors related to work-related health, under which STS, but also other not directly trauma-related factors are included.

Due to the inclusion of factors not related to traumatic exposure in Stamm's model (2012), a detailed review of all included factors is beyond the scope of the current thesis. Rather, the model is provided as background information, giving a conceptual clarification of STS in relation not only to compassion fatigue, but also to PTSD and comorbid disorders such as depression and burnout.

In the current thesis, the definition of STS provided by Figley (1995) and Stamm (2012) is applied. Furthermore, secondary traumatic stress is treated as a symptom cluster possibly occurring alongside PTSD, in occupational groups at risk for primary as well as secondary exposure to traumatic events.

Although an extensive amount of papers have been published on the topic (see bibliography in Stamm, 2010a), to the author's knowledge, only a few studies with a journalist sample have included STS (Keats & Buchanan, 2009). Dworznik (2008) included STS as well as PTSD, and found that journalists were at higher risk for severe STS symptoms than trauma counselors, due to a different work environment. However, the number of trauma-related assignments was not related to more secondary stress within the group of journalists.

1.7 Comorbidity

When more than one psychological disorder is included in studies on post-trauma distress, PTSD is usually treated as the primary disorder, due to its included criteria of exposure to a traumatic event. Comorbidity between PTSD and at least one other disorder is the rule rather than the exception (Gadermann, Alonso, Vilagut, Zaslawsky, & Kessler, 2012; Ragheb & Zimmerman, 2008; Keane, Brief, Pratt, & Miller, 2007). For example, in the US National Comorbidity Survey, Kessler et al. (1995) showed that 88% of participants with PTSD also had another comorbid disorder.

In trauma-related comorbidity studies, the issue of chronology between measured symptoms is of importance (Breslau, Davis, Peterson, & Schultz, 2000), especially if distress in relation to an identified trauma is studied. This is due to the fact that comorbid disorders without an explicit external stressor criterion might have been present before the exposure occurred, and they may in fact compose a risk factor, enhancing the possibility for trauma exposure.

1.7.1 Depression

Studies of post-trauma comorbidity have shown that depression is the most frequent disorder co-existing with PTSD (Breslau, 2009; Breslau et al., 2000; Keane et al., 2007; Kessler, 1997). Depression in the DSM-IV-TR (American Psychiatric Association, 2000) is categorized as a mood disorder, and the criteria for 296.2x Major Depressive Disorder, Single Episode include symptoms such as severe depressed mood, loss of interest or pleasure in everyday activities, and physical changes such as weight loss. As pointed out by Ragheb and Zimmerman (2008), some of the depression symptoms are closely reminiscent of a number of those included in the PTSD criteria. For instance, depressive symptoms such as diminished interest in everyday activities are relatively similar to the PTSD non trauma-focused avoidance PTSD criteria (C4-C6) (Kessler et al., 1995). However, depression lacks an external stressor criterion such as the PTSD A1 criterion.

In regard to the chronology of disorders, symptoms of depression may be present before the distressing event occurred, and in turn enhance the risk for being exposed to potentially traumatic events, as well as for developing PTSD (Breslau et al., 2000; Erickson, Wolfe, King, King, & Sharkansky, 2001; Ginzburg, Ein-Dor, & Solomon, 2010). If focusing on post-trauma chronology only, scholars have proposed that depression is more likely to develop as a later cause of PTSD than vice versa (Breslau, 2009; Ginzburg et al., 2010).

Only in a few cases, depression related to exposure to trauma has been studied in samples with journalists (Aoki et al., 2012; Feinstein et al., 2002; McMahon, 2001; Weidmann et al., 2008). Also, sample characteristics have varied between studies. In regard to comorbidity between PTSD and depression, results in journalist samples have usually shown that more severe PTSD symptoms are correlated with more symptoms of depression (Feinstein et al., 2002; Weidmann et al., 2008).

Weidmann et al. (2008) investigated depression as a main outcome of exposure to a potentially traumatic work assignment, and found no direct relationships between more work-related traumatic exposure and changes in depressive symptoms. McMahon (2001), on the other hand, showed that 43% of journalists with prior work exposure to trauma experienced significant long-term depression, which they attributed to potentially traumatic events.

1.7.2 Burnout

Burnout is a psychological disorder reflecting symptoms of general work-related exhaustion. It has been described as a slow process of psychological erosion, caused by ongoing stressors at one's work (Maslach & Leiter, 1997). Mainly, burnout has to date been studied in non-trauma contexts, as a part of work-related health issues. However, Maslach and Courtois (2008) have proposed that trauma-related work, specifically long-term repeated work with direct victims of a trauma, might also be a predictor for burnout. McCann and Pearlman (1990) emphasize that burnout in this specific context can be the result of the indirect exposure to traumatic content, as well as a result of the work process with a difficult cases (i.e. not caused by a trauma).

Unlike PTSD and depression, burnout is currently not included as a disorder in the DSM (American Psychiatric Association, 2000) or the World Health Organization's (2010) International Classification of Diseases (ICD-10). However, the ICD acknowledges the burnout concept as a "state of vital exhaustion" included in the category of factors possibly influencing health status and contact with health services.

Maslach and colleagues have included three dimensions in their definition of burnout: emotional exhaustion, cynicism, and a reduced sense of personal effectiveness (Maslach & Courtois, 2008; Maslach & Leiter, 1997). Furthermore, six interrelated work-related possible problem areas predicting more severe symptoms are mentioned: ongoing work overload, perceived lack of control over work-related issues, lack of reward/recognition for one's work, little support from colleagues, perceived unfair decision-making at the workplace, and discrepancy between own and organizational values relating to the work tasks.

In journalist samples, burnout is familiar from studies of everyday work stress (Cook & Banks, 1993; Leppänen & Tuomivaara, 2002; Tuomivaara, Leppänen, & Kalimo, 2002). However, research studying the specific connection between burnout and crisis-related assignments is to date virtually non-existent (Dworznik, 2008; Thoresen, 2007).

1.8 School shootings in Finland

1.8.1 Jokela

On November 7, 2007, the Finnish society was shocked when news spread that a school shooting had occurred in the quiet community of Jokela, in the southern parts of the country just outside the capital of Helsinki. A 17-year-old student opened fire in the local school center, killing eight fellow students and school personnel, and thereafter committed suicide (Ministry of Justice, 2009; National Bureau of Investigation, 2008). The crisis was the first Finnish case that can be labeled as an extensively mediatized school shooting, following a recent international trend of shooting scenarios (Hakala, 2009; Raittila et al., 2008; Muschert, 2007). Until then, in recent Finnish trauma history, the other case coming closest to this kind of unexpected man-made violence was the Myyrmanni shopping mall bombing in 2002, when a young man carried a bomb into a shopping mall, killing himself and six others and injuring close to 200 persons (Poijula, 2004).

The content of the national Jokela mass media coverage mainly focused on topics familiar from other cases of crisis reporting (Brayne, 2007), including description of facts, eyewitness accounts, situational descriptions, possible explanations, etc. (for more detailed accounts see e.g. Hakala, 2009, or Raittila, Koljonen, & Väliverronen, 2010). Still, the Jokela shooting was unique from a national media coverage perspective in it being the first large-scale school

shooting. The media had no previous practical experience of handling a violent act of this kind.

Because of the proximity to the capital city, the scene of the shooting was easily and quickly accessible to journalists from most national news organizations, and after some hours also within reach for international media. In the hours and days following the crisis, the number of journalists on the scene, as well as the worldwide coverage, was extensive (Hakala, 2009; Haravuori, Suomalainen, Berg, Kiviruusu, & Marttunen, 2011; Juntunen, 2009; Ministry of Foreign Affairs of Finland, 2007; Raittila et al., 2008).

In the weeks following the crisis, the local community reacted negatively to the presence of the mass media and the working methods used by journalists when gathering information. A mass petition was published on the internet, where examples of what was regarded as unethical information gathering techniques were provided. Listed examples included descriptions of journalists interviewing shocked minors, or trying to force themselves into homes of victims, but no identifiable cases were mentioned. The petition was signed by over 2000 people during a two-week period and was widely debated within as well as outside the journalistic profession (Korhonen & Pulsa, 2007; Ministry of Justice, 2009; Raittila et al., 2008).

Several possible reasons for the negative reaction among the public have been mentioned, such as the number of media representatives present on the scene, the slow response of rescue authorities, and the enhanced pace within the journalistic profession caused by the need to produce web-based content (Juntunen, 2009; Raittila et al., 2008). Retrospectively, the petition has been regarded by scholars and journalists as a wake-up call in regard to ethical issues within Finnish crisis journalism. In 2011, as a result of the petition and the related debate, a change in the national ethical guidelines for journalists was introduced (Council for Mass Media, 2011; Rekola, 2010).

1.8.2 Kauhajoki

Almost one year later, In September 2008, a second school shooting occurred in another small community in the mid-western part of the country, Kauhajoki. This time an upper-secondary vocational school was the target of the attack, and again, the perpetrator was a student. He followed the by then familiar destructive pattern, killing 10 students and school personnel and then himself (Ministry of Justice, 2010; National Bureau of Investigation, 2009).

The shooting in Kauhajoki naturally also evoked an intense national and international media coverage. However, when comparing the national coverage to that of the Jokela case, a number of differences have been pointed out (Ministry of Foreign Affairs of Finland, 2008; Juntunen, 2009; Raittila et al., 2009). For instance, the shooting was the second one in a short time period, and journalists as well as media organizations had a mental reference to the first case to fall back on, for example when making ethical choices about interviewing and publishing material. Also, the location of Kauhajoki is further away from the capital, which in turn required more traveling time for journalists before arriving at the scene, with the exception of local journalists. In the meantime, authorities had set up a perimeter around the crisis area, and victims and eyewitnesses had been evacuated, leaving few opportunities for journalists to collect first-hand accounts.

In the second case, the rescue authorities' readiness to answer to the needs of the media had been improved. Moreover, the Jokela mass petition was in fresh memory among media workers, in many cases affecting organizational or personal ethical choices on gathering and publishing material (Hakala, 2009; Juntunen, 2009; Raittila & Koljonen, 2009). To conclude, with some exceptions, the coverage of Jokela might be labeled as chaotic, while in Kauhajoki, it could be called careful.

1.9 Aims of the study

The first aim was to investigate the relationships between trauma history and current trauma-related distress symptoms in journalists. Trauma history was divided into previous exposure to traumatic events during work, and exposure in personal life. Investigated distress symptoms include PTSD, STS, depression and burnout. Furthermore, a partial aim was to study whether possible direct relationships between trauma history and posttraumatic symptoms may be mediated by symptoms of depression.

The second aim was to study journalistic work in a specific type of crisis-related assignment, a school shooting scenario, and subsequent symptoms of trauma-related distress in journalists. Measured distress symptoms include factors mentioned above as well as subjective accounts of emotions experienced in the short and long term after the incident. Furthermore, a partial aim was to identify risk factors predicting distress in journalists exposed to the aftermath of a school shooting in their work.

2. Method

The present thesis consists of four studies. The first aim, to investigate the relationships between trauma history and current trauma-related distress symptoms, was addressed in Studies I and II, and the experience of working in a school shooting assignment was the main subject of Studies III and IV[1]. In the first and second study, a quantitative research design was applied, while Study III had a concurrent mixed methods design, and study IV a qualitative approach. An overview of design and topics is provided in Table 3.

Table 3
Research approaches and main measured concepts in conducted studies

Study I	**Quantitative research design**
Method	Questionnaire (n = 503)
Objects of study	Personal and work-related trauma history, PTSD, STS, depression, and burnout
Study II	**Quantitative research design**
Method	Questionnaire (n = 407)
Objects of study	Work-related trauma history, PTSD, and depression
Study III	**Mixed methods research design**
Method	Quantitative questionnaire (n = 493) Qualitative questionnaire (n = 126)
Objects of study	Personal and work-related trauma history, PTSD, STS, depression, and burnout related to school shooting in Jokela Short-term stress reactions, ethical issues, and public criticism related to school shooting in Jokela
Study IV	**Qualitative research design**
Method	Interview (Finland n = 28, USA n = 32) Finnish complementary material: Qualitative questionnaire (n = 126)
Objects of study	Short and long-term stress reactions, ethical issues, and public criticism related to school shootings in Columbine, Jokela and Kauhajoki

[1] Studies I to III were written as journal articles and reviewed in anonymous peer review processes by journal reviewers. Study IV was written as a chapter for an edited book and reviewed in an open peer review process by the book editors.

2.1 Participants and procedure

Participants in Studies I to III were derived from the same sample. Below, the general data collecting procedure in these studies is first described, followed by more detailed descriptions for each study.

Contact information for Finnish news journalists (n = 2 475) and a control group of culture/economy/sports journalists (n = 389) was compiled for a database. Journalists included in the database (total N = 2 864) represented newspapers, radio, television, and web media. Freelance journalists were excluded due to difficulties with finding relevant sources for contact information. Information was gathered from news media organizations' web pages, from media products published during a two-week period, and by directly contacting media organizations. National and regional media houses with more than five employees and a media product publication rate of three or more days per week were included.

The time for approaching journalists was planned for the fall 2007. Due to a sudden national large-scale crisis unfolding at that time, i.e. the Jokela school shooting incident, the process was postponed to spring 2008. The survey was changed to better fit the group studied in relation to the incident (see Measures/Subjective accounts of stress reactions below for more details). When the survey was conducted, approximately five months had passed from the time of the shooting.

Journalists in the database were contacted via email which included a link to a web survey. In addition, a link to the survey was published on the Union of Journalists in Finland's web page and in its periodical for members (Journalisti, 2008). The survey was active during a two-week period, and, in total, 571 journalists chose to participate. Of these, 503 were news journalists and the remaining 68 belonged to the control group mentioned above. Due to the small sample size of the planned control group of culture/economy/sports journalists, this group was excluded from further analysis.

In Study I, the topic was trauma history and current trauma-related pyschological symptoms in Finnish journalists. All news journalists in the main survey were included in the study (n = 503, mean age = 44 years, SD = 11.2 years). Of the journalists, 47% were males and 53% females. Their media affiliations were as follows: newspaper 58%, radio 18%, television 18%, and web 2%.

The topic of Study II was to investigate work-related trauma history and current psychological symptoms in more detail. The sample (n = 407) was derived from the group described above. Journalists were included if they indicated that producing news was their main type of working task, and if they had experienced at least one potentially traumatic work assignment. Mean age in the sample was 43 years (SD = 11.1), and 44% of the participants were males, 56% females. Media affiliation for the participants was the following: newspaper 57%, radio 18%, television 18%, and other types of media 7%.

In Study III, a mixed methods design was used in order to investigate Finnish journalists' subjective stress reactions, trauma history, and psychological trauma-related symptoms in relation to work during the Jokela school shooting incident. Participants were drawn from the main sample described above. Among news journalists in that sample, 493 provided answers in the Jokela-related part of the survey, and these were hence included in the quantitative section of Study III. In the sample, 196 journalists had worked with the incident: 27 on the scene, and 169 at the home office or in other parts of the country). The remaining 297 were treated as a control group. Furthermore, the study included a qualitative section, based on open-ended questions in the web survey that were accessible to those journalists who had worked with the shooting. Of these, 126 journalists (64%) provided answers to the qualitative questions. Mean age among the included participants was 44 years (SD = 11.2), 48% being

male and 52% female. Media affiliation in the whole sample was newspaper 58%, radio 18%, television 17%, and web news 2% of participants.

Study IV is the only solely qualitative study included in the current thesis. The topic of the study was news journalists' subjective reports of short and long-term trauma-related reactions connected to work during the Columbine, Jokela and/or Kauhajoki school shootings. The total sample (N = 60) consisted of two subsamples, one of Finnish news journalists (n = 28) and one of American (n = 32). The two subsamples were collected separately during different time periods, without knowledge of each other. In the total sample, journalists represented national and regional newspapers, television stations, and radio broadcasters.

A criterion for participating in the Finnish subsample was that the journalist had been working on the scene during at least one of the shootings, and possible participants were contacted (1) in connection with the sampling procedure for the general sample used in Studies I to III, by asking participants about possible interest for taking part in a follow-up interview, (2) via gathering information from media organizations/published media content, and (3) via a snowball sampling procedure.

Interviews with news journalists covering the Jokela (n = 15) and Kauhajoki (n = 15) shootings were collected during a three-month period in 2010, approximately one and half years after the Kauhajoki incident and two and a half years after Jokela. Some journalists worked during Jokela as well as Kauhajoki. Furthermore, some complementary material for the analysis of the Jokela case was extracted from the data provided by participants in the qualitative part of Study III (n = 126), mentioned above.

The American subsample (n = 32) consisted of journalists either at the scene during the Columbine shooting or working with the incident from their home offices. Interviews were carried out in 1999-2000, between two months and one year after the crisis. In addition, follow-up interviews with the same sample were conducted in spring 2002.

2.2 Measures

2.2.1 Trauma history in personal life

For the measurement of lifetime trauma history in personal life (Studies I and III), the Traumatic Life Events Questionnaire, TLEQ (Kubany et al., 2000) was used. Among trauma history questionnaires, the TLEQ is one of the most extensively studied surveys regarding item reliability and validity (Norris & Hamblen, 2004; Weathers & Keane, 2007). In the questionnaire, both exposure criteria for PTSD mentioned in DSM-IV (American Psychiatric Association, 2000) are taken into account. Thus, information about previous exposure to potentially traumatic events (PTSD criterion A1) as well as exposure to traumatic events (PTSD criterion A2) is gathered. In the TLEQ, 23 items are included, with yes/no response alternatives, measuring a wide variety of possible exposure to crises, ranging from natural disasters or childhood physical abuse. No prior translations into Finnish and Swedish were found and therefore the TLEQ was translated using forward translation, and to assure correctness an expert panel scrutinized the translated content.

In the current studies, a total of 18 trauma history items were used, for survey length reasons. The wording of items was changed somewhat to better fit the group investigated, and one item measuring bullying was added. Two subscales were derived from the items, consisting of sum scores of (1) experienced range of PTE:s and (2) range of TE:s. Trauma history measurements reflect exposure to varying types of potentially traumatic events rather than a mutual underlying construct, and therefore no reliability data is presented.

2.2.2 Work-related trauma history

In Studies I-III, work-related trauma history in journalists was measured with the Journalist Trauma Exposure Scale (JTES) (Pyevich, 2001). The JTES is a modification of a survey used by Newman et al. (2003), and it is one of a few existing tools specifically developed for journalists (Dworznik, 2008; Smith 2008).

The JTES measures PTEs experienced while doing journalistic work during the last year. In other words, the time period is defined as shorter than in the case of the TLEQ, the given reason being to avoid memory bias among participants (Pyevich, 2001). The JTES includes 23 items, 14 pertaining to the number of times one has been exposed to potentially traumatic events (a quantitative dimension), and 9 on identifying the worst assignment, and pinpointing characteristics included in that event (a qualitative dimension). As in the case of the TLEQ, forward translation and an expert panel were used for translating the JTES.

The questionnaire is analyzed by deriving three subscales, two from the quantitative and one from the qualitative dimension. The Frequency of Exposure subscale consists of a sum score of how often given events were experienced during the last year (14 items); the Range of Exposure subscale consisted of a sum score of total number of events being exposed to at least once (14 items); and the Intensity of Exposure subscale of a sum score of distressing characteristics included in the worst experienced assignment (9 items). In the current studies, the 14 exposure items were modified by dividing response alternatives into times working (1) on the scene and (2) indirectly with PTEs. Thereby, collected data included frequency of exposure on the scene and indirectly respectively, and range of exposure with on the scene and indirectly as subcategories. As in the case of the TLEQ, measures of internal consistency (reliability) for the subscales are not meaningful and therefore not presented.

2.2.3 Post-traumatic stress disorder

PTSD symptoms were measured in Studies I to III with the PTSD Checklist, Civilian Version (PCL-C) (National Center for PTSD, 2010; Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL-C is a widely used questionnaire, with 17 items on possible problems related to stressful experiences, with response alternatives on a five-point Likert scale (ranging from "not at all" to "extremely"). No translation into Finnish was found, and the translation procedure mentioned above was used to obtain a Finnish version of the PCL-C. The Swedish translation provided by Söndergaard (2006) was used.

The PTSD Checklist can be used for probing reactions caused by one identified event, or for measuring PTSD in general, without any outspoken reference to a specific experienced trauma. The latter was the case in the current studies. New guidelines on cut points for PTSD were introduced by the US National Center for PTSD in 2010, and these were implemented in the studies included in the current thesis. In the recommendations, the cut points suggested for a PTSD diagnosis based on civilian primary care samples range from 30 to 38. The author chose to use a strict cut point of 38 in studies where such were analyzed (Study III). The choice of a cut point in the higher end was made with the goal to minimize the risk of including false positives, in accordance with the US National Center for PTSD guidelines (2010). Subsequently, the recommendations have been updated, as the cut points recommended for civilian samples presently are defined as between 30 and 35 points (National Center for PTSD, 2012).

All PCL-C items were used in the studies, and a sum score of responses was calculated for use in the analysis. The questionnaire achieved excellent reliability (internal consistency): Cronbach's α for all three studies was .91.

2.2.4 Secondary traumatic stress

In Studies I and III, STS was measured with the Professional Quality of Life Scale (ProQOL R-IV) (Stamm, 2005; 2010b). In the ProQOL R-IV secondary traumatic stress subscale, 10 statements are included. Responses are given on a 6-point Likert scale (ranging from "never" to "very often"). In 2009, a new version of the scale, ProQOL-V was introduced (Stamm, 2010b), but in the current thesis the older version was used. The Finnish translation by Palmunen and Ruuska (2006) and the Swedish translation by Jameson (2007) were used. Cronbach's α for the STS subscale was α = .75 in study I and α = .76 in study III.

The STS conceptual confusion in recent years, mentioned in the literature review section, is reflected in the articles included in the current thesis. The word compassion fatigue is used in Article I for what is currently more commonly interpreted as secondary traumatic stress.

2.2.5 Depression

In data collected for Studies I to III, depression was measured with the short version of the Beck Depression Inventory (BDI-13; Beck & Beck, 1972). The Beck Depression Inventory is one of the most extensively used measures of depression, and for survey length reasons, the short version was chosen for the current project. Thirteen items are included in the BDI-13, each item containing four statements. Respondents are asked to choose one statement per item, and statements reflect severity of depressive symptoms. Translations provided by Raitasalo (2007) and Psykologiförlaget AB (Beck & Steer, 1996) were used. In the current studies, all BDI items were included in the survey. BDI-13 achieved a Cronbach's α of .82 in Study I, α = .84 in Study II, and α = .83 in Study III.

2.2.6 Burnout

Experience of burnout was included in Studies I and III, and measured with the Professional Quality of Life Scale burnout subscale (ProQOL R-IV) (Stamm, 2005; 2010b). As in the case of the STS subscale, 10 statements are included, and responses are given on a 6-point Likert scale (ranging from "never" to "very often"). To achieve acceptable reliability (Cronbach's α) for the burnout subscale in the current studies, items 15 and 29 were excluded. Reliability scores were then α = .74 in Study I and α = .74 in Study III.

2.2.7 Subjective accounts of stress reactions

Journalists' accounts of stress reactions after working in a school shooting were measured and analyzed qualitatively in Studies III and IV. In both cases, the conceptual framework approach described by Miles and Hubermann (1994) was used.

From a theoretical viewpoint, when applying this approach, a researcher first constructs an underlying conceptual framework of themes expected to emerge in responses. The framework consists of previous research results and basic facts related to the area, as well as more general knowledge about the topic. The framework is constructed prior to actual data collection. A questionnaire/interview scheme including expected themes is then designed according to that framework, thus not starting from a blank page when conducting and later analyzing interviews. In addition, during collection and analysis, the researcher is expected to have a readiness for discovering and handling topics not included in the originally listed themes.

When constructing the underlying conceptual framework design for Studies III-IV, the author was influenced by previous research on the Jokela and Kauhajoki incidents, as well as by studies on other school shootings. Further influences included research regarding

journalists' post-trauma symptoms and crisis-related work assignments in general, as well as basic research and knowledge on traumatic exposure and possible reactions in the general population. Also, the framework design was influenced by anecdotal information gathered by the author via media reports, attended seminars in the time period between the incidents and conducted analysis, and previous personal experience of work within the studied occupational group.

In Study III, with focus on the Jokela case, one item with an open response alternative was included in the survey. The question was worded as follows: "What kind of thoughts or feelings about your work as a journalist have you had after working with the Jokela school shooting incident?". The question was generally worded, but since the item was combined with quantitative trauma-related items some respondents might have provided answers specifically on psychological reactions. Since only one open item was included, the conceptual framework approach was implemented mainly during the analysis of answers. The final framework included expectations of answers reflecting the following topics:

(1) participants' individual crisis reactions as well as references to previous exposure to trauma,
(2) comments on issues related to ethical best practices in crisis journalism, and accounts of personal work-related crisis or trauma training,
(3) the experience of the Jokela assignment in relation to everyday work issues (work stress, tight deadlines, shortage of staff, etc.).

In Study IV, both the Jokela and Kauhajoki cases were included. The data collection was carried out as interviews, and in this case, a conceptual framework was constructed before designing the interview structure. Naturally, the framework content was influenced by the layout used in the previous study, and therefore somewhat similar. However, the conceptual framework was more detailed in this study, reflecting the different data collection approach. The basic structure of interviews is found in Appendix II. The following changes and additions to the above described Study III layout were made:

(1) in addition to investigating participants' short-term crisis reactions, more focus on long-term distress was included,
(2) the time of onset and chronology of experienced distress reactions were investigated in more detail,
(3) themes related to ethical best practices in crisis journalism were combined with reflections about strategies implemented at the respondent's workplace,
(4) a comparison between the two cases was included as a new theme,
(5) the effects of the Jokela mass petition on personal distress, covering the Kauhajoki case, and general ethical best practices was included as a new theme.

2.3 Statistical analyses

The statistical analyses used in the quantitative studies in the current thesis (Studies I-III) are described below. Analytical approaches in qualitative studies (Studies III-IV) have been described in detail in the method section above.

2.3.1 Study I. Relationships between trauma history and post-trauma distress in Finnish journalists

Partial correlation (controlled for age) was used for investigating relationships between trauma history (five variables) and trauma-related distress symptoms factors (four variables).

Stepwise linear multiple regression analyses were conducted for investigating the predictive value of factors related to trauma history on trauma-related distress. Regression coefficients were standardized βs, and variance not predicted by the independent variables was accounted for by calculating $\sqrt{1-R^2}$.

The moderating (interaction) effects of trauma history factors with a main significant predictive effect on distress factors were studied by using a multivariate analysis of covariance (MANCOVA; controlled for age). Two trauma history factors significantly predicted all four distress factors, and were dichotomized at the mean of each variable for enabling analysis.

2.3.2 Study II. Direct and mediating relationships between previous potentially traumatic exposure, PTSD, and depression in Finnish journalists

A series of simultaneous multiple regression analyses (enter method, controlled for sex distribution) were used to investigate (a) the direct predictive effect of trauma history (two variables) on PTSD, and (b), if such a direct effect was identified, the mediating (indirect) effect of depression on the relationship between trauma history and PTSD was measured. In order to investigate whether possible mediating effects were significant, the Sobel test (*z*) was used.

2.3.3 Study III. Personal and work-related trauma history, PTSD, STS, depression, and burnout related to the school shooting in Jokela

Journalists working with the Jokela incident were compared to a control group of news journalists. Group differences in the number of participants being at risk for developing severe distress symptoms were investigated, by using a series of chi-square analyses. Distress symptom variables were dichotomized at the "at risk"-levels provided by authors of the scales.

The two groups were also compared in relation to range of trauma history, with an analysis of covariance (ANCOVA; controlled for sex and age).

Journalists working with the Jokela crisis were further divided into two groups, those working on the scene and those working indirectly with the incident. Level of peri-traumatic distress due to the assignment was compared between groups by conducting a chi-square test.

Partial correlations (controlled for sex and age) were used for investigating relationships between trauma history variables (four variables), peri-traumatic distress (one variable), and post-trauma distress (four variables).

A simultaneous multiple linear regression analysis (enter method, controlled for sex and age) was used for investigating the predictive value of trauma history (four variables) on level of experienced peri-traumatic distress during work with the Jokela incident. As in Study I, standardized βs were used as regression coefficients, and the unpredicted variance was calculated by using the equation $\sqrt{1-R^2}$.

2.4 Ethical considerations

The research project was carried out in accordance with current ethical research guidelines and trauma-related best practices. These include general guidelines published by the National Advisory Board on Research Ethics (2009) and the World Medical Association Declaration of Helsinki (2008), specific guidelines for trauma-related research published by the International Society for Traumatic Stress Studies (Collogan, Tuma, Dolan-Sewell, Borja, & Fleischman, 2004; Newman & Kaloupek, 2009), and occupation-specific best practices by the Dart Center for Journalism & Trauma (McMahon, 2008; Shapiro, 2008). The survey and procedure used for collecting data for Studies I to III was not specifically inspected by the Committee for Research Ethics at Åbo Akademi University, as the recommendations by the Committee state that general surveys where ethical research guidelines are implemented do not need a specific statement. The interview procedure used in Study IV was reviewed and approved by the Committee.

3. Results

In the results section below, the central findings from the present studies are summarized. More detailed information is found in the original publications.

3.1 Thesis aim I: To study trauma history and current trauma-related distress in journalists

3.1.1 Study I. Relationships between trauma history and post-trauma distress in Finnish journalists

Relationships between five variables related to trauma history and four variables measuring current post-trauma distress were analyzed in a sample of 503 journalists. Trauma history variables included range of PTEs and TEs in personal life, range of work-related PTEs on the scene and covered indirectly, and characteristics of worst covered incident. Current distress variables included PTSD, STS, depression, and burnout.

More previous exposure to trauma in personal life was related to more severe current distress, as trauma history variables showed strong positive correlations ($p < .001$) with all four types of measured distress.

Regarding work trauma history, results were less clear. The numerically highest correlation was found between the characteristics of the worst covered incident subscale and current distress factors, showing that previously covering a potentially traumatic event of a more gruesome nature was linked to more current distress. Having covered more events on the scene was similarly related to distress. On the other hand, only PTSD and STS symptom severity were related to a larger number of PTEs covered indirectly, i.e. from the home office or at another location than on the scene.

All four measured variables of current distress symptoms were strongly positively correlated with each other. In other words, having severe PTSD symptoms was related to severe symptoms of STS, depression and burnout.

Table 4
Summary of results of four regression analyses investigating the relationship between trauma history and current distress. Rows represent significant predictors and columns outcome factors.

	PTSD	STS	Depression	Burnout
Range of TEs in personal life	β = .39***	β = .36***	β = .24***	β = .21***
Gruesome characteristics in worst work incident	β = .14**	β = .18***	β = .10*	β = .11*

* $p < .05$, ** $p < .01$, *** $p < .001$

The predictive values of the five trauma history factors on PTSD, STS, depression and burnout were investigated in a series of regression analyses. In all four analyses, the same two trauma history variables had a significant predictive effect: range of lifetime TEs exposed to in personal life, and exposure to more gruesome characteristics during the one worst covered work incident in the last year. For an overview of the central statistics of the conducted analyses, see Table 4.

3.1.2 Study II. Direct and mediating relationships between previous potentially traumatic exposure, PTSD, and depression in Finnish journalists

Relationships between two variables related to trauma history and two variables measuring trauma-related distress (PTSD and depression) were analyzed in a sample of 407 journalists. Trauma history variables were limited to PTE exposure only. PTE factors included were lifetime range of exposure in personal life and 12-month work-related exposure on the scene of the event.

A series of regression analyses were conducted to investigate (a) the predictive effect of the two PTE exposure variables on PTSD, and (b) whether depression mediated the effect between the predictor and outcome variable.

Previous exposure to PTEs in personal life predicted PTSD symptoms significantly. Furthermore, a partial mediating effect of depression on the direct relationship between PTEs in personal life and PTSD severity was found (Sobel's test $z = 3.97$, $p < .001$). Regression analyses are summarized in Figure 1.

Work-related exposure to PTEs on the scene during the last year predicted PTSD significantly. When depression was treated as a mediating variable, the predictive effect of work PTEs on PTSD severity was no longer significant. Thus, the mediating effect of depression was in this case complete (Sobel's test $z = 2.53$, $p < .05$). Regression analyses are presented in Figure 2.

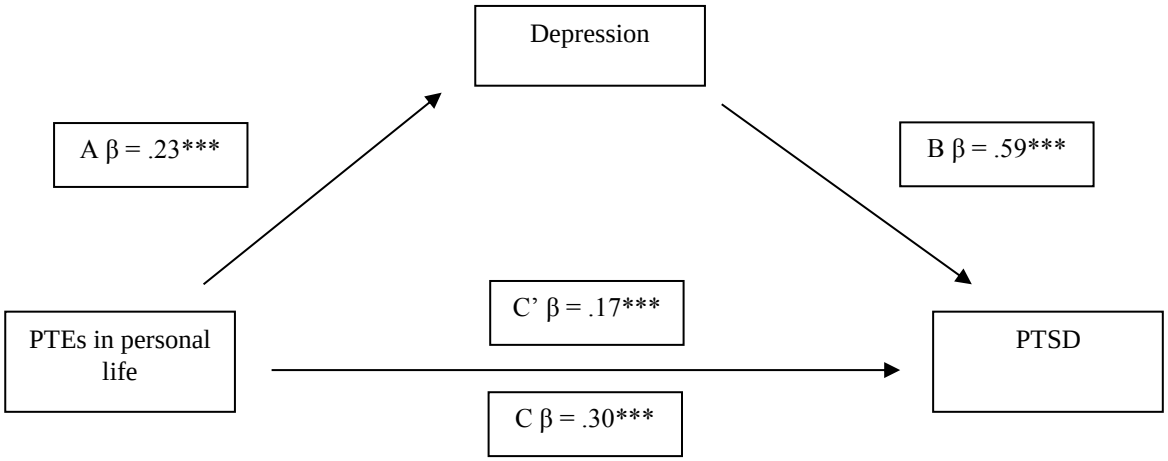

Figure 1. Summary of an investigation of the mediating effect of depressive symptoms on the relationship between exposure to potentially traumatic events in personal life and PTSD symptoms. A represents the predictive value of PTEs on depression, B the predictive value of depression on PTSD. C represents the predictive value of PTEs on PTSD before including depression into the equation, C' the value after including depression.

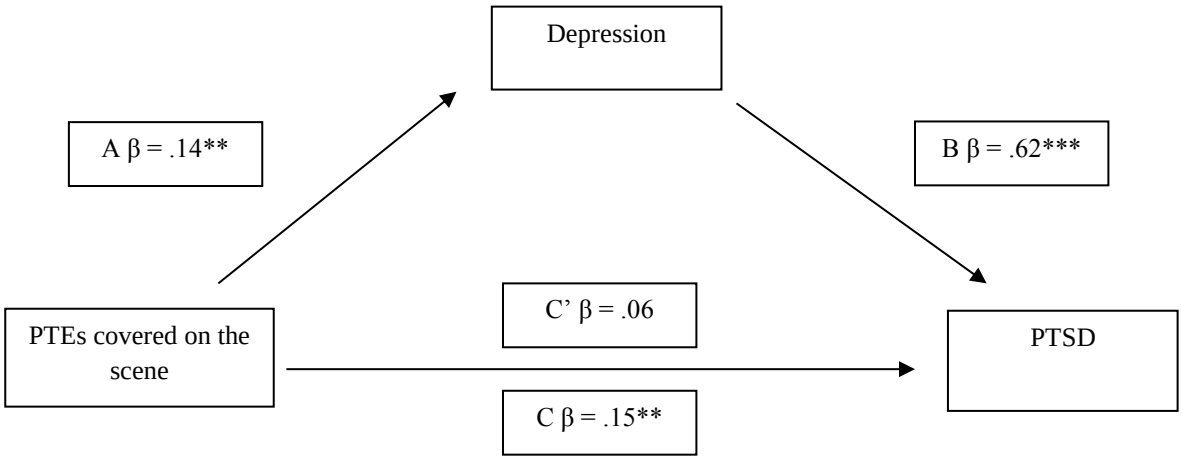

Figure 2. Summary of an investigation of the mediating effect of depressive symptoms on the relationship between exposure to potentially traumatic work assignments and PTSD symptoms. A represents the predictive value of PTEs on depression, B the predictive value of depression on PTSD. C represents the predictive value of PTEs on PTSD before including depression into the equation, C' the value after including depression.

3.2 Thesis aim II: To study journalistic work in a school shooting and related psychological distress

3.2.1 Study III. Trauma history and work-related psychological distress in journalists working with the school shooting in Jokela

In the quantitative part of the study, four variables related to trauma history (PTEs and TEs in personal life; work-related PTEs covered on the scene, and indirectly), one variable on peri-trauma distress (level of fear, helplessness, or horror), and four variables related to current post-trauma distress (PTSD, STS, depression, and burnout) were studied in news journalists working with the Jokela incident (n = 196) and a control group (n = 297).

In total, 27% (n = 52) of participants working during the Jokela shooting experienced some degree of peri-trauma distress due to the event; 12% (n = 19) showed PTSD symptoms severe enough to meet criteria for a diagnosis. However, a chi-square test showed that the size of the at risk-group did not differ significantly from those at risk within the control group (9%, n = 24). Similarly, when comparing at risk-groups for the other measured distress symptoms (STS, depression, and burnout), no significant differences between groups were found.

Partial correlation analyses were conducted to study how trauma history and current distress symptoms were related among journalists working with Jokela. Larger lifetime range of PTE and TE exposure in personal life were both positively correlated with all four current distress factors. Work PTE exposure during the last year (on the scene, as compared with indirectly) was, on the other hand, not correlated with any distress variables, except for more work exposure on the scene showing a weak, but significant correlation (p < .05) with more severe secondary traumatic stress symptoms.

More peri-trauma distress experienced during the Jokela assignment was not correlated with any trauma history variables, and in regard to post-trauma distress factors, a correlation was found only with more secondary traumatic stress. All measured types of post-trauma distress were strongly positively correlated with each other (p < .001).

Relationships between trauma history and peri-trauma distress during work with Jokela were further investigated in a regression analysis with four measures of trauma history factors as independent variables. A summary of significant predictors is presented in Table 5.

Table 5
Summary of results of a regression analysis investigating the relationship between trauma history and distress (fear, helplessness, or horror) experienced while working in Jokela. Rows represent significant predictors.

	Peri-trauma distress during Jokela
Range of PTEs in personal life	β = -.34**
Range of TEs in personal life	β = .45***

** $p < .01$, *** $p < .001$

In the qualitative part of the study, subjective stress reactions after the incident were investigated in the 126 participants providing responses to this section in the questionnaire. Psychological stress was described by 43% of the participants, and experiences mainly included combinations of reactions of general sadness, or crying, fear, shock, anxiety, empathy, and occupation-focused guilt. Furthermore, a specific family-focused worry was central in 20% of the responses, i.e. worry about how to talk to one's children about the incident. Time of occurrence of reactions was usually defined as after the journalistic work was finished, at home. Only a few participants mentioned strong reactions when they were at work.

In comparison to psychological stress, occupation-specific ethical dilemmas were the more common topic. The following three interrelated main categories were identified:

> (1) issues regarding general choices on what material to publish, i.e. journalists' responsibility to find a balance between reporting the incident, yet avoid provoking additional distress to the public,
> (2) explicit thoughts of how to approach victims on the scene, and when/if to choose not to do so,
> (3) comments about the post-Jokela public criticism towards journalists and descriptions of personal feelings of emotional distress caused by being the target of the criticism.

3.2.2 Study IV. Work-related psychological distress, ethical issues, and public criticism in journalists working with the school shootings in Columbine, Jokela and Kauhajoki

Subjective short and long-term stress reactions and ethical issues in relation to crisis journalism were studied in participants working with the Columbine (n = 32), Jokela (n = 15) and/or Kauhajoki (n = 15) school shootings. The author of the current thesis was responsible for the collection and analysis of the Finnish subsample, and therefore results only from that subsample are presented below (n = 28). Results from the whole study are presented in detail in Publication III.

Almost half of the sample experienced disturbing short-term reactions, including combinations of factors such as dissociation or shock, anxiety, sadness, overwhelming fatigue, anger towards peers or colleagues, and a strong feeling of aversion for going back to the scene.

For a majority of journalists, work on the scene did not have any long-term negative effects. However, roughly one fifth of the participants experienced strong reactions still present at the time of data collection. Reactions included intrusive memories triggered by images connected to the scene (pictures, texts etc.), physical arousal caused by such triggers or when recollecting the crisis, and avoidance (privately as well as during work hours) of either the crisis scene or exposure to similar new crises. A few cases of occupation-specific reactions were also identified, including a long-term preoccupation with crisis-related events, intrusive thoughts of inadequacy as a journalist, or worry about how to handle new crisis assignments.

Severe distress was often connected with being a parent or having a personal connection to the crisis scene.

The emotional reactions usually surfaced when leaving the scene or after finishing the whole assignment. A majority of the sample pointed out the necessity of engaging in an "autopilot" strategy while being on the scene. When in "autopilot" mode, the individual shut down personal feelings and focused entirely on working tasks, to get the work done.

Regarding ethical journalistic challenges, a large number of general issues emerged. These included themes such as having difficulties combining working on the scene with personal uncertainty about the nature of the unfolding situation, and problems with receiving a professional media response from rescue authorities.

In addition, challenging issues of a more detailed nature were identified. A majority of participants mentioned dilemmas related to approaching eyewitnesses and victims in an ethically acceptable way. Journalists described the contradiction between wanting to protect victims in shock or of minor age from participation in media products, and the need to collect relevant media content for their workplace. Furthermore, solving the problem in most cases was experienced as the individual journalist's personal responsibility.

The long-term importance of the post-Jokela public criticism towards journalists was as a central topic in the study. Journalists had a double-sided view on the relevance of the criticism; the general ethical discussion provoked by the petition was seen as needed, but examples of ethical violations included were not experienced as relevant for one's own work and seen as unfairly generalizing all journalists to behave as vultures.

Ethical problems experienced were also investigated as possible sources of subjective stress reactions. Three main categories of ethical challenges were identified as affecting personal distress level, and these are summarized in Table 6. Furthermore, the post-Jokela public criticism as a factor for long-term distress was investigated. Only a few participants were experiencing some type of distress related to the criticism. In such cases, the petition provoked general hopelessness in relation to journalistic work in crisis assignments or worry about one's own individual capacity to handle new assignments of this type.

Table 6
Three categories of ethical dilemmas related to more severe subjective post-trauma distress reactions

Ethical dilemma	**Description**
1. Uncertainty about one's own ethical norms	Work was negatively affected by personal insecurity about boundaries for ethically acceptable work strategies
"Everybody wanted information, […] and I just at some point had to say that I can't handle this. Especially since I all the time also followed what [other media] were writing and had found out, and I felt more and more that I should of course also have found similar material, asked myself how far I would be ready to go for such material, and so on" *(Journalist in Kauhajoki)*	
2. Unethical orders from home office	Work included receiving and carrying out orders that were experienced by the journalist as unethical
"So at some point my editor, when he told me that the death toll is this high, he said that now your mission is that you have to get emotions, so then I was there trying to find people that would in some way react to this […]. So in a way, in the end I was there searching for fear and distress" *(Journalist in Jokela)*	
3. Misunderstandings or mistakes	The work setting evolved in an unethical manner due to factors beyond the journalist's control
"The woman [in the door] just said that she doesn't want to participate, so we left […]. An hour later we got another call from the home office, that [the perpetrator] had actually killed this friend of his. […] For me this was a very hard situation, because I definitely think you shouldn't do death knocks […] and I remember standing there in the Kauhajoki city hall trying to hold back the tears, it felt so terrible" *(Journalist in Jokela and Kauhajoki)*	

4. Discussion

News journalists have a work description that is unique when it comes to crisis exposure (Brayne, 2007; Englund, 2008; Simpson & Coté, 2006). Everyday work tasks do not include being on the scene of a crisis, but the possibility of a suddenly emerging crisis assignment is real and always present. When a crisis takes place, a reporter may be involved in a number of ways, such as broadcasting live in a studio, editing distressing footage at the office, or interviewing on the crisis scene. If reporting on the crisis scene, again, the journalist's role is unique: not to save lives and provide support to those affected, but to tell the world what happened.

The current thesis had a twofold aim. First, to investigate the role of trauma history in relation to current trauma-related distress symptoms in news journalists in general, and second, to investigate journalists' experiences of work during a specific type of crisis-related assignment, a school shooting, from a psychological trauma viewpoint.

Results and limitations in regard to the two main topics are first discussed separately, after which general conclusions and practical implications are presented. The studies included quantitative as well as qualitative approaches, and interpretation of specific results should be made in relation to the underlying study design. Furthermore, as data was collected via a web-based survey and interviews, it may not be representative for Finnish news journalists in general.

4.1 Trauma history and current psychological distress in journalists

4.1.1 Trauma history

The results of the current thesis underline the importance of understanding the role of trauma history when studying current distress symptoms. A broad viewpoint of trauma history factors were used to enable the studying of subcategories of specific importance for journalists.

Analyses of previous work-related exposure showed that qualitative as well as quantitative aspects of exposure may affect well-being. Among the journalists studied, qualitative (magnitude) factors explained more than quantitative ones. Having previously covered an event of a more gruesome nature was more important for negative effects on individual health than what was the case with the range (number) of previous assignments. The result is in accordance with former studies on journalists where a similar approach has been used (Dworznik, 2008; Smith, 2008).

Trauma history in personal life included the measurement of potentially traumatic events (PTEs) as well as traumatic events (TEs). Results from Study I showed that more previous exposure to TEs was clearly related to current trauma-related distress to a larger degree than what was the case with PTEs. This result is to be expected, as TEs per definition consist of those crises that had provoked outspoken distress in the person then and there (Weathers & Keane, 2008). However, as shown in Studies I and II, more PTE exposure in personal life was also connected with more post-trauma distress.

Methodologically, when interpreting the results regarding work and personal life trauma history, differences between measurement instruments need to be understood. First, time periods differed. Work-related exposure was in the survey defined as during the last year, while personal life exposure was defined as lifetime. As mentioned above, a large range of personal life trauma history was more clearly related to more current distress than the range of work-related history; a logical result since the time period referred to in the former case was longer.

Second, subcategories of measured trauma history factors varied between instruments. The work-related history questionnaire included the range of PTEs and 'nature of worst event' subcategory, while the personal life history questionnaire probed for the range of both PTEs and TEs. Therefore, no comparable data between work/non-work trauma history could be provided in the TE and 'nature of worst event' subcategories.

The main interpretations of the overall results related to trauma history are that the amount as well as nature of previous exposure may have an effect on current trauma-related distress. Furthermore, potentially traumatic experiences may be manifested in a work or personal life environment, and subsequent long-term consequences of such exposure are not limited to one of these settings, but rather affect all areas of everyday life.

These facts add to the still sparse literature on risk factors for psychological trauma in journalists (Aoki et al., 2012; Simpson & Coté, 2006; Smith & Newman, 2009). For media organizations and educators, the practical implications of the results are important. For example, in the case of work-related exposure, in addition to a possible cumulative effect of years of crisis-related work, already one assignment may lead to serious psychological distress if the exposure is of a very gruesome nature (Brayne, 2007).

Furthermore, some implications for scholars in the area can be made. With samples including an occupational group with exposure to crises as a part of their general work description, a research approach where work as well as non-work trauma history measurements are included provide a comprehensive viewpoint of possible risk factors.

Also, measured subcategories need to be clearly separated to prevent misunderstandings regarding what has been measured, for example type (work-related or personal life history; PTEs or TEs), or nature (quantitative or qualitative level) of previous exposure. Related to this, as pointed out by Weathers and Keane (2007), the official definition of trauma is still a moving target. In the suggestion for new DSM-5 criteria for PTSD (American Psychiatric Association, 2012; Friedman, Resick, Bryant, & Brewin, 2011), the A2 criterion is proposed to be eliminated. As the A2 criterion currently divides PTEs from TEs in trauma history studies, the suggestion for DSM-5 further supports the importance of providing clear definitions of measured types of trauma history.

The studies at hand were the first of their kind with a sample of Finnish journalists. Therefore, to ensure the comparability of results with previous research, the author chose to strictly follow instrument characteristics provided by scales authors (Kubany et al., 2000; Pyevich, 2001) instead of changing the constructs for better compability between scales. However, as an implication for future research, the trauma history measurement tools should be further refined to enhance better comparability between measured factors. Scholars have previously pointed out psychometric issues with the JTES tool, used for work-related exposure (see for example Dworznik, 2008). Similarly, psychometric validity issues are still understudied in the whole area of psychological trauma history (Weathers & Keane, 2007).

In the light of the design of the current project, one practical suggestion is to modify one established questionnaire to measure work as well as personal life exposure, instead of including two separate questionnaires. A modification could include follow-up questions for each listed PTE category, indicating whether the incident occurred while working and/or in private life.

4.1.2 Trauma-related psychological distress

Current distress symptoms included measurement of PTSD, STS, depression, and burnout. As already reported above, all four symptom clusters were significantly predicted by trauma history. Furthermore, the four clusters were positively correlated with each other.

PTSD and STS both include an outspoken external trauma stressor criterion, but differ in the nature of stressor criterion required (primary and secondary; Stamm, 2012). As the results showed, and as pointed out by Dworznik (2008) and Weidmann and Papsdorf (2010), journalists may be affected by both types of exposure. From a theoretical viewpoint, PTSD and STS as trauma exposure outcomes are overlapping concepts due to the very similar symptom descriptions of both disorders. Hence, if including both types in the same study, a clear interpretation of one concept in relation to the other might pose a challenge. Interestingly, work-related indirect exposure to PTEs have explicitly been included in the suggestion for DSM-5 PTSD criteria (American Psychiatric Association, 2012, p. 1), as proposed PTSD criterion A4 states that exposure can be of the following nature:

> "experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse); this does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work-related."

The suggestion is of relevance for studies on journalists as, if accepted, the new criteria provide future scholars with a clearer definition of how to treat a work-related external stressor of secondary nature as an exposure type in relation to symptoms of PTSD.

The two other factors of distress symptoms included in the current studies were depression and burnout. Contrary to the symptoms mentioned above, depression and burnout criteria do not include clearly stated requirements of an external stressor. Depression and burnout were included, since they both represent more general types of psychological distress important in relation to work-related psychological health (Stamm, 2012; Tuomivaara et al., 2002). Also, both factors have previously been linked to traumatic exposure in comorbidity studies (Keane et al., 2007; Maslach & Courtois, 2008; Ragheb & Zimmerman, 2008; Thoresen, 2007).

Results from the current thesis support the notion that previous trauma exposure might affect the severity of depression and burnout. Furthermore, as shown in Study II, the relationship between trauma history and trauma symptoms with an external stressor (in this case, PTSD) might change if taking into account the indirect effect of another symptom cluster relevant for psychological health. In the thesis, depression was chosen as the factor indirectly affecting the relationship, due to its central role as a comorbid disorder, but a future study with burnout as the mediating variable would be worth consideration.

Results from Study II provide a broader understanding of the more hidden comorbid effects potentially traumatic exposure might have in journalists. For example, a gruesome crisis-related assignment might function as the "last drop" for causing an underlying burnout to fully emerge; or previously present depressive symptoms not related to a current trauma exposure might be of importance for subsequent PTSD. The studies are to be interpreted as a modest first step of investigating the variety of, and complex relationships between, possible trauma-related comorbid distress symptoms in a cross-sectional sample of journalists. More studies are needed, and as for example Breslau and colleagues (Breslau et al., 2000; Breslau, Peterson, & Schultz, 2008) have pointed out, studies investigating internal relationships between trauma-related distress symptoms would benefit from a longitudinal design.

4.2 Journalistic work in a school shooting and related psychological distress

Journalists' experiences of working during a school shooting were investigated in two studies, the first in early 2008 approximately five months after the Jokela shooting, the second in 2010 one and a half years after the Kauhajoki shooting.

Journalists working with one or both shootings described experiencing a variety of personal short-term reactions, of varying severity, due to the assignment. However, five months after the first incident, only a minority of the sample, not larger than in a control group, was suffering from severe PTSD. Also, one and half years after the second shooting, only a few participants, in their own words, were still experiencing severe long-term distress.

This is in line with previous studies with journalism samples, showing that this occupational group is usually relatively resilient after experiencing an identified work-related PTE (Smith & Newman, 2009). Furthermore, an important fact about short and long-term dimensions of stress symptoms is illustrated in the current results: severe short-term reactions such as avoidance or re-experiencing are often a part of the normal healing process, although experienced as distressing at the time (Bryant, 2004; Norris & Slone, 2007).

Obviously, the type of tasks carried out during the assignment might have influenced the study outcomes. The sample in which PTSD was measured consisted of a majority of journalists working with the crisis from the home office or at another location than the actual scene of the shooting. However, including individuals working indirectly with the crisis has been an approach used in other studies (Idås, 2011; Thoresen, 2007), and it was a deliberate choice by the author as it reflected a more realistic picture of the common division of tasks in media organizations during crises.

The qualitative approach in current studies provided a detailed description of the unique situation of journalists in a school shooting. The usual time of onset of short-term reactions was identified as when the work tasks were completed. The onset time pinpoints when the journalist is most vulnerable in the direct crisis aftermath, and, accordingly, understanding the time perspective helps individual journalists, next-of-kin, and media organizations preparing for peri-trauma support functions.

Central risk factors linked to more experienced post-assignment distress included a larger degree of personal identification with the characteristics of the distressing event (i.e., participants having children of their own), or having a personal connection to the crisis location. The identified factors lend support to a study by Berrington and Jemphrey (2003), and provide information on which categories of individual journalists might be at higher risk for severe distress after similar assignments. Furthermore, as a practical implication, media houses with offices regionally close to the affected area need to understand the added risk a possible personal connection to the crisis scene might have for their employees.

An identified risk factor of special interest for journalism studies is the experience of going beyond individual work-related ethical boundaries. In the studies, stepping over boundaries was clearly described as related to more post-trauma distress. Journalists went beyond personal ethical limits either because of a lack of knowledge about how to do crisis-related work, due to dubious orders received from the home office, or because of mistakes/developments beyond individual control.

One main reason for the focus on ethical issues in the current cases was probably the emphasis on the above mentioned public criticism towards journalists after the Jokela shooting (Raittila et al., 2010). However, also more generally, the importance of working in an ethically acceptable manner during crises is central within the occupation. Journalists understand the risk of adding to the distress of those involved, but still have to do their work. This work is not to rescue people and normalize the critical situation but to inform about the

incident, and this in turn makes journalists a target for criticism (Englund, 2008; Simpson & Coté, 2006). Having a clear legal and ethical framework for one's work routines provides a personal reference and security to lean on if such criticism is presented. If, then, the individual experiences having gone beyond an ethical threshold and into a gray zone while working with a crisis, post-assignment distress levels might be affected.

Although the overall importance of journalism ethics during work in crises is well-known (Juntunen, 2009; Raittila et al., 2010; Simpson & Coté, 2006), ethical standards as a risk factor for psychological distress have to date seldom been a clearly stated area of interest in previous research. One example is found in a Norwegian journalist sample covering the Tsunami in 2004, where dilemmas such as breaking personal ethical standards were strongly related to more post-trauma symptoms (Idås, 2009; 2010). Clearly, more studies investigating this topic are needed. In relation to the thesis at hand, the author was involved in a subsequent project where the three types of ethical risk factors were investigated in relation to PTSD in Norwegian journalists covering the violence in Oslo and Utöya in 2011. Preliminary results of that study provide further support for the role of ethical issues, as the three dilemma types all predicted more severe PTSD symptoms (Idås & Backholm, 2012).

As a final theoretical viewpoint, a related framework worth considering in future studies is the still developing concept of moral injury and related risk factors. Moral injury is defined as a form of possible long-term impairment in soldiers, including symptoms closely reminiscent of PTSD. Symptoms are caused by having carried out or witnessed a task not in agreement with own moral standards (see Litz et al., 2009, or Maguen and Litz, 2012, for a detailed description of the concept). According to Litz et al. (2009, p. 700), possible injurious risk factors include "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations". Although acts in a war zone are not directly comparable with crisis-related news work, the importance of own moral/ethical rule-breaking and subsequent psychological response in both areas seem to have a common function for the individual.

4.3 Conclusion and practical implications

News journalists work with varying tasks from day to day, often not knowing in the morning what topic will be their focus during the rest of the day. As sudden crises often are of a public interest, they are one of the likely themes a reporter will be working with at some point during one's career. In the current media-saturated society, the journalist is the main link between the unfolding incident and the public, and in order not to worsen the crisis this link needs to function well. Therefore, understanding what might impact on journalistic work choices, and on the underlying well-being of the individual making these choices, is of utter importance.

As this thesis shows, most journalists are not at risk for severe distress following work in crises – but for some individuals, their work will provoke distress symptoms severe enough to lead to a long-term impairment of basic functions. Risk factors for more severe consequences are complex and may be manifest before, during, or after the actual exposure. Some risks are identified in the current thesis, but since journalistic work in crises can take many forms, studies investigating risk factors in strictly defined samples with clearly identified work tasks are needed. Furthermore, as a majority of journalists show resilience after work-related exposure to crises, future studies should focus on investigating in detail the occupation-specific factors promoting resilience after assignments.

Evidence-based information about psychological distress due to work in potentially traumatic environments is to date a relatively unfamiliar topic in journalism education curricula or at workplace strategy seminars. On the other hand, general ethical considerations

in journalism, as the Finnish Ethical guidelines for journalists, are a central included topic familiar to most journalists. The results from the thesis at hand imply one main preventive strategy for diminishing risks for trauma-related stress within journalism. Educators as well as media organizations (1) ought to promote and provide a broader understanding of psychological trauma and related distress, not only for informing journalists about the possible cost of burden associated with news journalism and recognizing post-trauma distress in journalists themselves, but also for better preparing their journalists for how to approach crisis victims and covered themes; and (2) to bring together basic trauma knowledge with best practices for ethical crisis journalism, in order to diminish the risk of journalists causing further harm in first-hand victims, as well as to avoid injury to the journalists themselves due to carrying out a task not congruent with personal values.

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Original publications I-IV