PTSD in Paramedics: History, Conceptual Issues and Psychometric Measures

Abstract

Clinical research suggests that post-traumatic stress disorder (PTSD) is more common in paramedics than the general population due to the stressful and distressing nature of their work. This diagnosis of PTSD has been influenced by sociological perceptions of mental illness and changes in diagnosis criteria. A highlighted issue is that affecting forms of PTSD associated with chronic stress and repeated trauma is scarcely researched amongst paramedics. This is especially striking as this workforce is potentially more likely to be affected by this form of PTSD. This article will provide a history of PTSD diagnosis in paramedics in relation to its consideration by diagnostic taxonomies. In particular key changes made to PTSD from 2013 will be discussed, as well as considering implications for insight and research into the experiences and symptomology for paramedics.

Key words: PTSD Trauma Paramedics DSM-5 ICD-11 Review

The History and Development of PTSD in DSM-III

Post-traumatic stress disorder (PTSD) is generally described as a mental disorder characterised by intrusive flashbacks, detachment from the world, and distortedly high arousal, caused by stressful external environmental events (Lasiuk and Hegadoren 2006; Friedman 2013). The original articulations of the category of PTSD can be seen as historically contingent and closely related to historical events. PTSD was classified as a mental illness in the Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition (DSM-III) in 1980 (APA 1980) and was largely related to the aftermath of the Vietnam War

(Shatan 1973; Horowitz and Solomon 1975; Young 1997). Documented evidence suggests that seemingly relevant symptomology was indeed present in people from earlier times. Yet other, perhaps more colloquial descriptors would have been used, such as shell-shock (Meyers 1915; Miller et al. 1992; Cantor 2005).

Introduction of DSM-IV and PTSD Diagnosis in Paramedics

In 1994, DSM-IV was introduced to replace DSM-III with a major change being the implementation of clinical-significance criterion to almost half of the identified mental disorders, including PTSD (Breslau and Alvarado 2007; Stein et al. 2010). While military veterans were the focus of PTSD research during its categorical inception from 1980, studies using DSM-III were able to diagnose PTSD in other populations exposed to trauma, such as sexually abused children (Wolfe et al. 1989), Holocaust survivors (Kuch and Cox 1992), clinical staff who were victims of patient violence (Caldwell 1992), and police officers involved in shooting incidents (Gersons 1989). The revision of the definition of PTSD in 1994 through DSM-IV helped to increase and facilitate diagnosis of this by lowering the diagnostic threshold (McNally 2004) and in turn, PTSD in paramedics received more attention. The most notable change was to Criterion A, regarding the traumatic experience. While DSM-III required this to be outside the usual range of human experience, DSM-IV allowed for stressful experiences that were not necessarily outside the 'usual range' as well as those exposed to vicarious trauma (Joseph et al. 1997). This could therefore account for bystanders and witnesses of traumatic incidents, rather than the victims directly involved (McNally 2004).

Research using DSM-IV criteria suggests that PTSD is more prevalent in paramedics as compared to the general population (Grevin 1996; Larkin et al. 2000). Research has also

explored predictor variables of PTSD onset in paramedics (Alexander and Klein 2001), coping strategies (Kirby et al. 2011), underlying causes (Fjeldheim et al. 2014) and work support (Scully 2011). Given that PTSD in DSM-III was originally intended to reflect the trauma in military soldiers, it is possible that the conceptualisation of PTSD in paramedics may have been closely related to the updates to the criteria of PTSD in DSM-IV.

Conceptual Issues of DSM-IV and PTSD in Paramedics

Published research journals suggests that the increased elasticity of DSM-IV regarding PTSD diagnosis led to increases in such diagnosis across many population groups. This increase in inclusivity and elasticity was implemented into DSM-IV after researchers in the early 1990s began to notice that people who did not meet the full diagnostic criteria for PTSD in DSM-III displayed significant impairments such as diminished social functioning, suicidal ideation and increased healthcare use (Fink et al. 2019). Additionally, DSM-IV expanded the definition of traumatic events to include indirect experiences of observers of the victims (APA 1994). As well as increasing the qualifying events of PTSD by 59 percent (Echterling et al. 2016), this aspect is especially pertinent to paramedics given how their traumatic experiences are largely vicarious (Regehr et al 2002). McNally (2004) however argues that the change to Criterion A in DSM-IV has led to an over-diagnosis of PTSD in populations that have not experienced 'catastrophic events falling outside the perimeter of everyday experience' (McNally. 2004, 1). Other researchers argue that the vague and inclusive definition of PTSD in DSM-IV has increased its application to a variety of populations (Spitzer et al. 2007; Andreasen 2010). It may therefore be possible that PTSD diagnosis in paramedics became possible only after the 'conceptual bracket creep in the definition of trauma' (McNally. 2004, 3) created by DSM-IV.

This may be illustrated in the self-help manual for stress in emergency workers published by Hartsough and Myers in 1985. Their manual states that common issues after event stressors include anxiety, fatigue, depression and irritability. However, they advocate that an extreme form of this symptomology is required for a PTSD diagnosis to be considered. They further argue that, rather than constituting 'a disorder', this symptomology is natural in the circumstances and to be expected in emergency workers: "Disaster workers who experience these problems should not be viewed or dealt with as if they suffered from mental illness. They are responding normally to very abnormal situations" (Hartsough and Myers. 1985, 35).

Arguably, DSM-IV made the diagnostic criteria for PTSD less restrictive. This potentially extended application to non-military populations, allowing for experiences 'within the range of usual human experience' (McNally. 2004, 1) to be factored into a diagnosis of PTSD. This updated criterion could account for indirect victims of the traumatic event, such as the paramedics who arrive to handle the aftermath of the scene (Regehr et al. 2002; McNally 2004).

The Validity of Trauma and PTSD in Paramedics

It can however be argued that the severity and prevalence of PTSD in paramedics is such that it had the potential to have been diagnosed using the more restrictive DSM-III criteria during the 1980s. While published in 1999, the study by Clohessy and Ehlers found that 21% of their 56 paramedics and technicians from Oxfordshire Ambulance NHS Trust met the criteria for PTSD using DSM-III. Additionally, recent studies suggest that the rates of PTSD in paramedics are equal, if not greater, to that of military soldiers, with reports of PTSD in around 10% of paramedics (Shepherd and Wild 2014) and in around 3-5% of UK

military soldiers (Fear et al. 2010). Therefore, it is possible that PTSD in paramedics was diagnosable using DSM-III between 1980 and 1993. It should however be noted that while there are comparisons of rates of PTSD diagnosis between paramedics and military soldiers, there are no studies comparing the *severity* of PTSD between these two populations. Future research should consider this.

It is most likely that other factors were involved which restricted studies on PTSD in paramedics being carried out in this period. One reason may be the fact that most of the research on PTSD during that period was more focused on the direct victims of traumatic events rather indirect victims (McNally 2004). Additionally, this may be in part due to the stigmatisation of mental health issues often observed in paramedic workforces. Haugen et al (2017) outlines how stigma is a predominant barrier in receiving mental health care for many first responders, and Quaile (2016) discusses how there is still stigma attached to mental health issues in paramedics, especially for PTSD. Therefore, this stigmatisation may cause an under-reporting of mental health issues, as well as a lack of published research into PTSD in paramedics in the 1980s and early 1990s.

Additionally, the increase in studies investigating PTSD symptomology in paramedics after 1994 may be explained by a wider cultural shift in the perception of what mental illness in paramedics is. A meta-analysis on reports of national time trends suggests that mental health literacy and acceptance of professional help for mental health problems has increased in the general public since 1990 (Schomerus et al. 2012). More specifically to paramedics, programmes such as the Blue Light Programme implemented in 2014 have aimed to help tackle stigma and raise awareness about mental health in the emergency services and has displayed positive impacts in this area (Quaile 2016; Maguire and Baraki 2018). For instance, Blue Light Champions (volunteers and workers in the programme) themselves reported an

increase in feeling comfortable in talking about their own and other's mental health, signifying a reduction of stigma alongside an increase in awareness (Maguire and Baraki 2018). Hartsough and Myers stated that paramedics were responding 'normally to abnormal situations' (Hartsough and Myers. 1985, 35) and were not suffering from mental illness as a result. Most recent researchers in this field now argue that psychological distress inflicted on paramedics by critical incidents at work is not a 'normal' response, and they are in fact victims who are in need of support and treatment (Krupa et al. 2009; Crampton 2014; Pucci 2017). The change in approach towards mental illness in paramedics may also explain the increased research since 1994.

The research highlighting the issue of trauma and PTSD in paramedics may have arisen from both cultural shifts towards perceptions of mental illness, and the change in PTSD criteria in DSM-IV. Despite the apparent importance of DSM-IV in paving the way for PTSD research in paramedics, the diagnosis criteria in DSM-IV is not without its issues and problems (McNally 2004; Spitzer et al. 2007; McNally 2009). These include vagueness and overuse due to the 'conceptual bracket creep' (McNally. 2004, 3). Another issue is that DSM-IV was unclear if its criteria included PTSD symptomology caused by chronic traumatic experiences. Criterion A (1) states "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 or self or others" (APA 1994, 427). The pluralisation of 'events' does not provide specific enough confirmation that the criterion includes PTSD symptomology caused by repeated exposure to traumatic stimuli.

Chronic Stress Disorders and PTSD in DSM-IV: Issues for Paramedics

The research literature suggests that repeated exposure to traumatic stimuli leads to variations of PTSD. Lanius et al. (2010) reports that repeated stresses such as chronic childhood abuse and combat trauma can result in a dissociative subtype of PTSD that is more characterised by affective symptomology. A standardised classification of PTSD based on repeated interaction with traumatic stimuli is important for paramedics because their profession is possibly more characterised by the accumulation of stressful work events than acute traumatic work incidents (Alexander and Klein 2001; Regehr et al. 2002; UNISON 2013). The ability to diagnose a dissociative subtype of PTSD in this workforce may help produce effective approaches to alleviate this issue more efficiently. This form of PTSD will be referred to as 'negative PTSD', and the more typical form of PTSD characterised by acute trauma and hyperarousal symptoms will be referred to as 'positive PTSD'. This distinction is similar to that used in schizophrenia literature and evaluation (McGlashan and Fenton 1992).

The effects of chronic stress on mental wellbeing have been investigated. However, research in this area has several issues. There was no official, clear category for such a disorder in DSM-IV (APA 1994). This has resulted in research using a wide range of non-standardised terminology with non-specified intensity of symptoms when researching chronic stress disorders. Unlike the unity of acute-stress disorders created by the criteria for PTSD in DSM-III (Blake et al. 1992; Joseph et al.1997), neither DSM-III nor DSM-IV have been able to do this for negative PTSD. There are separate bodies of work linking paramedics to burnout (Grigsby and Knew 1988; Nirel et al. 2008), compassion fatigue (Inbar and Ganor 2003; Figley 2013), and chronic workplace stress (Halpern and Maunder 2011). None of these disorders were listed under DSM-IV (APA 1994), and some form of classification may assist with furthering the understanding of the complete aetiology of PTSD, especially given

that paramedics appear to be susceptible to the form of negative PTSD described by Lanius et al. (2010).

DSM-5: Allowing for PTSD Diagnosis from Repetitive Exposure to Trauma

In 2013, the criteria for PTSD was further altered in DSM-5 (APA 2013). Following criticism that DSM-IV had become too inclusive (McNally 2004; Spitzer et al. 2007; McNally 2009), DSM-5 aimed to have a more conservative, restrictive diagnosis criteria for PTSD (Pai et al. 2017). This is reflected by the change in Criterion A, which now requires 'actual or threatened death, serious injury or sexual violence' and no longer requires the victim's subjective response of 'fear, helplessness or horror' (Joseph et al. 1997; Pai et al. 2017). Therefore, Criterion A is now more based on the traumatic event, rather than the person's response to it.

The updated, restrictive criterion appears to have made the diagnosis of PTSD less inclusive. Kilpatrick et al. (2013) recruited participants from the general population using an online survey and found that 60% of cases that met the DSM-IV criteria for PTSD did not meet the criteria in DSM-5. Diagnosis of PTSD in paramedics may be changed little by DSM-5, given that the nature of their profession means that they are often exposed and witnesses to death and serious injury (APA 2013; Pucci 2017). Nevertheless, studies investigating PTSD in paramedics using DSM-5 need to be conducted to investigate this. So far, no studies on this issue published after 2013 have used the criteria of DSM-V and have mostly continued to use DSM-IV (Fjeldheim et al. 2014; Michael et al. 2016; Oravecz et al. 2018). While these studies were published after 2013, it is likely that most of these studies began before DSM-5 was published in 2013, so used the criteria in DSM-IV.

Additionally, DSM-5 has importantly included criteria for the dissociative subtype of PTSD proposed by Lanius et al. (2010). Firstly, Criterion A has listed a fourth exposure type: 'Repeated or extreme indirect exposure to aversive details of the event(s), usually in the course of professional duties (e.g., first responders, collecting body parts; professionals repeatedly exposed to details of child abuse)' (APA 2013). This addition to the criteria has therefore made it more feasible to diagnose paramedics with PTSD based on their repeated traumatic experiences in their work.

Secondly, DSM-5 has updated the symptomology to include affecting symptoms associated with negative PTSD (Chu 2010; Lanius et al. 2010). PTSD is no longer associated entirely with anxiety and is new in a new category under 'trauma and stress-related disorders' (APA 2013; Pucci 2017). This is due to research suggesting that anxiety is not always specific to PTSD (Spitzer et al. 2007; Pucci 2017). DSM-5 has therefore placed an increased emphasis on affecting symptoms with an added a new criterion (Criterion D) that requires at least two affective symptoms. Therefore, DSM-5 has expanded the diagnosis criteria for PTSD to include negative PTSD. Hence, paramedics who in the past may have been labelled with a chronic stress not listed under DSM, such as burnout or work stress, may be more likely to receive a diagnosis of PTSD through the affecting symptoms listed under Criterion D.

The PCL-5: Investigating PTSD in Paramedics Caused by Repetitive Exposure

The updated changes to PTSD diagnosis in DSM-5 therefore has the potential to include negative PTSD. This is more characteristic of the stress and trauma found in the paramedic profession (Regehr et al. 2002). Nevertheless, the ability to diagnose PTSD still often requires assistance from questionnaire-based tools, especially when a structured

interview is not possible (Weathers et al. 1993). For the ability to diagnose negative PTSD, questionnaires must facilitate this aspect as well as symptoms of positive PTSD. Prior to DSM-5, most studies on psychopathology in paramedics used both a PTSD scale and a separate scale for the stress-related mental distress caused by repetitive exposure (Alexander and Klein 2001; Fjeldheim et al. 2014; Wild et al. 2016). It may however be possible for one updated PTSD questionnaire to cover both these aspects.

The first PTSD questionnaire to be made in response to the changes in DSM-5 was the post-traumatic stress disorder checklist 5, or PCL-5 (Weathers et al. 2013) (see Appendix 1). This questionnaire has demonstrated good levels of validity in a study on soldiers (Bovin et al. 2016). To date, the PCL-5 has only once been used on paramedics; the study was focusing on their responses to a singular traumatic event (Shrestha 2015). The questionnaire has not yet been used to account for repetitive traumatic events in paramedics.

Advantages and Disadvantages of the PCL-5

In PCL-5 a new, fourth addition to Criterion A in DSM-5 has been made ("repeated exposure to stressful events as part of one's job"), with paramedics included as an example. The identification of the *worst event* at the start of the questionnaire also allows for the option of 'multiple similar events'; "Also it could be a single event (for example, a car crash) or multiple similar events (for example, multiple stressful events in a war-zone or repeated sexual abuse)." This option appears to expect the participant to group a multitude of stressful experiences into a broad grouped experience, especially given the little room they have to write down their experience/experiences. By being required to write only one example in the measure, it may not be capable of measuring the often wide-spanning traumatic experiences that paramedics endure. The trauma experienced by paramedics is often due to a toll taken by

these collective experiences, rather than one singular incident (Lanius et al. 2010; Stassen et al. 2013). For instance, Regehr et al. (2002) provide a list of critical events a paramedic may face, such as the death of a child, being attacked by disorderly patients and multiple casualties. Additionally, qualitative interviews by Clompus (2014) seem to indicate that the paramedic's PTSD symptomology was often the result of a culmination of different cases, as well as isolated incidents. Therefore, paramedics using the PCL-5 may struggle to provide an answer representative of their experiences.

Furthermore, the Likert scale section of PCL-5 contains several questions based on the participant's experience. Examples include "Repeated, disturbing, and unwanted memories of the stressful experience?" and "Trouble remembering important parts of the stressful experience?" In relation to the current topic, an issue with these questions is that they are all singular, and do not account for the idea of a culmination of different stressful experiences that could be responsible for the PTSD onset. Paramedics may therefore use their own initiative when completing the questionnaire and try to select a single, particularly stressful event they experienced, or treat the questions as if they were plural. Nevertheless, this issue may affect the ability of the questionnaire to measure the multiple traumatic experiences that are characteristic of this workforce. In future studies researchers could either: (1) devise a questionnaire more suited to factoring in multiple traumatic experiences, (2) continue to use a separate questionnaire for chronic stresses not listed in DSM such as burnout or compassion fatigue, or (3) use the ITQ from the International Classification of Diseases (ICD-11).

ICD-11 and Complex PTSD

For the past thirty years, both DSM and the ICD have mostly agreed with the definition and categorisation of PTSD (Peters et al. 1999). However, the agreement between the two manuals has altered in their respective latest editions in 2013 and 2018. While DSM-5 in 2013 made PTSD more inclusive for negative symptoms caused by chronic exposure to critical incidents, ICD-11 argues that there are two sibling disorders that each covers acute trauma and chronic trauma. ICD-11 still retains a definition of PTSD characterised by acute critical incidents resulting in symptoms characterised by hyperarousal. It also defined the sibling disorder, coined as complex PTSD (CPTSD) as being more characterised by affecting symptoms often caused by chronic trauma over time, such as childhood abuse, and often occurs in co-morbidity with other disorders such as depression (Cloitre et al. 2013; WHO 2018).

Despite being formally recognised in ICD-11 in 2018, the idea for a separate term of CPTSD has existed since the early 1990s (Herman 1992; Roth et al. 1997; van der Kolk 2002). Several researchers argued for the inclusion of CPTSD in ICD-11 based on the overall literature (Maercker et al. 2013). Prior to 2018, further analytical evidence was provided to suggest that PTSD could be split into two sibling disorders. Latent profile analysis by Cloitre et al. (2013) suggested a distinction between hyperarousal PTSD symptoms and affecting PTSD symptoms, with single-event trauma being more predictive of PTSD and chronic trauma being more predictive of CPTSD.

Currently it is difficult to provide a conclusion on the validity on either DSM-5 or ICD-11 criteria for PTSD. Research so far is rather inconclusive, with mixed findings for the validity of both DSM-5 (Stein et al. 2014; Hansen et al. 2015) and ICD-11 (Hansen et al.

2015; Wolf et al. 2015). Future studies using psychometric measures derived from these diagnostic systems should be compared and evaluated.

The International Trauma Questionnaire: Potential Applicability to Paramedics

While more research is needed to investigate how the two diagnostic systems for PTSD relate to paramedics, ICD-11 may provide an advantage that DSM-5 is currently behind on; specifically the lack of DSM-5 questionnaire that can proficiently measure the effects of chronic stress on PTSD characterised by affecting symptoms. Based on the definition of PTSD in ICD-11, the International Trauma Questionnaire (ITQ) is a self-report diagnostic tool for both PTSD and CPTSD developed by Cloitre et al. (2018). This was developed from a prototype version using random sampling from the general population in the U.K. The ITQ (see Appendix 2) provides a clear distinction between symptomology caused by acute exposure to trauma, and symptomology caused by chronic exposure by using two different Likert scales. Therefore, this questionnaire may be more capable of measuring negative PTSD in paramedics as well as positive PTSD. Unlike the PCL-5, the ITQ could in this respect provide a better reflecting of the day-to-day accumulation of stress and trauma built up in paramedics.

Issues with the International Trauma Questionnaire for Paramedics

Using the ITQ to measure negative PTSD in paramedics may be promising. However, there may be potential issues. The ICD-11 and ITQ does not allow for a diagnosis for both PTSD and CPTSD, only either one (Cloitre et al. 2018). This may not be a suitable approach for paramedics due to the range of both acute and chronic traumatic experiences that paramedics face. For instance, the distress that paramedics endure may be the chronic due to

multiple casualties but also acute due to the death of a patient or being attacked by violent patients (Regehr et al. 2002). This is reflected in reports that paramedics often have a complex aetiology of both positive PTSD symptoms and mental health issues associated with chronic stress, such as burnout, depression, numbing and perceived stress (Alexander and Klein 2001; Fjeldheim et al. 2014; Wild et al. 2016). Therefore, it is likely that the symptomology in paramedics is a complex interaction between both hyperarousal and affecting symptoms, and not simply PTSD or CPTSD as ICD-11 and the ITQ propose. While research specifically on paramedics and ICD-11 is needed to further test this, this already appears to be the case with other populations. Cloitre et al. (2013) found that 20% of their acute trauma exposed participants fell into the CPTSD class, and 23% of their chronic trauma participants fell into their PTSD group. Furthermore, Wolf et al. (2015) could not support a distinction between PTSD and CPTSD in U.S. military veterans. This additionally suggests a more complex aetiology of PTSD between acute and chronic stress may be present in vulnerable workforces (such as paramedics) that is difficult to segregate.

Requirements for a Future Questionnaire

The ITQ currently provides a quick and helpful method of distinguishing between hyperarousal-based PTSD and CPTSD (Cloitre et al. 2018). It can be argued that the criteria in DSM-5 are better suited for reflecting the aetiology of PTSD in paramedics. The criteria in DSM-5 combines hyperarousal symptoms as seen in Criteria B and E, and affecting symptoms as seen in Criterion D. This better reflects the range of affecting and hyperarousal symptoms paramedics often display in response to PTSD caused by both acute trauma and chronic trauma. Firstly, studies are required to investigate the interaction between acute and chronic trauma and PTSD. Secondly, a revision, or alternative to the PCL-5 is required. A better method of investigating PTSD in paramedics would be to develop a questionnaire

based on DSM-5 that, unlike the PCL-5, also reflects Criterion A4 by including negative PTSD resulting from repeated exposure to trauma often caused by work. This questionnaire should also give the user more freedom in explaining what is possibly a range of different experiences that is collectively troubling them, rather than being manoeuvred into giving just once experience.

Conclusion

This article has outlined the history and conceptual issues of PTSD in paramedics. There is currently a lack of research investigating PTSD characterised by chronic stress and affecting symptoms in paramedics. While recent updates to diagnostic systems are more open to PTSD diagnoses for non-military populations, they are still largely influenced by the form of acute psychological trauma associated with the military, rather than chronic traumas often observed in paramedics. Both DSM-5 and ICD-11 contain criteria that may facilitate more appropriate diagnoses of PTSD in paramedics. Criterion A4 in DSM-5 allows for a PTSD diagnosis based on repeated exposure to aversive events in the course of professional duties, while ICD-11 outlines the sibling disorder CPTSD to account for affecting symptoms as a result of chronic traumas. Questionnaires that can sufficiently measure this in paramedics are required to allow research to further explore PTSD in this workforce. Furthermore, it may also be useful if a study compares the severity of PTSD symptomology between paramedics and military personnel to fill additional gaps in the research literature.

<u>Key Points</u>

- The diagnosis criteria change for PTSD in DSM-IV helped accelerate the research of PTSD in paramedics. However, it is possible that this would have occurred regardless.

- Research has suggested that PTSD characterised more by affecting symptoms may result in repeated exposure to trauma and chronic stress. This has largely been under-researched in paramedics.
- The diagnosis changes to PTDS made in DSM-5 and ICD-11 may help increase the research on more affective PTSD in paramedics.
- Future researcher may consider developing a questionnaire that can sufficiently measure this more affective PTSD in paramedics. DSM-5 questionnaires currently do not fully capture this aspect. ICD-11 questionnaires separate the two forms of PTSD when it is likely that they coincide in paramedics.

Reflective Questions

- What details would a new questionnaire need to sufficiently measure the aetiology of both positive PTSD and negative PTSD?
- How much will the new diagnosis criteria in DSM-5 and ICD-11 change research on PTSD in paramedics?
- To what extent has the research on PTSD in paramedics been shaped by changes in diagnostic criteria and cultural perceptions?
- Will DSM-5 and ICD-11 increase research on negative PTSD in paramedics, as well as other populations?

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Conflict of Interest Statement

The author declares that there is no conflict of interest.

Appendix 1

PCL-5

Instructions: This questionnaire asks about problems you may have had after a very stressful experience involving *actual or threatened death, serious injury, or sexual violence*. It could be something that happened to you directly, something you witnessed, or something you learned happened to a close family member or close friend. Some examples are a *serious accident; fire; disaster such as a hurricane, tornado, or earthquake; physical or sexual attack or abuse; war; homicide; or suicide.*

First, please answer a few questions about your *worst event*, which for this questionnaire means the event that currently bothers you the most. This could be one of the examples above or some other very stressful experience. Also, it could be a single event (for example, a car crash) or multiple similar events (for example, multiple stressful events in a war-zone or repeated sexual abuse).

Briefly identify the worst event (if you feel comfortable doing so): _____

How long ago did it happen? _____

Did it involve actual or threatened death, serious injury, or sexual violence?

_____Yes

_____No

How did you experience it?

_____ It happened to me directly

_____ I witnessed it

_____ I learned about it happening to a close family member or close friend

_____ I was repeatedly exposed to details about it as part of my job (for example, paramedic, police, military, or other first responder)

_____ Other, please describe _____

If the event involved the death of a close family member or close friend, was it due to some kind of accident or violence, or was it due to natural causes?

_____Accident or violence

_____Natural causes

_____Not applicable (the event did not involve the death of a close family member or close friend)

Second, keeping this worst event in mind, read each of the problems on the next page and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	*Not at all*	*A little bit*	*Moderately*	*Quite a bit*	*Extremely*
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (*as if you were actually back there reliving it*)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4

5. Having strong physical reactions when something reminded you of the stressful experience (*for example, heart pounding, trouble breathing, sweating*)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (*for example, people, paces, conversations, activities, objects, or situations*)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (*for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous*)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4

14. Trouble experiencing positive feelings (*for example, being unable to feel happiness or have loving feelings for people close to you*)?	0	1	2	3	4
15. Irritable behaviour, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

Retrieved from Bovin et al. (2016)

Appendix 2

The International Trauma Questionnaire

Instructions

Please identify the experience that troubles you most and answer the question in relation to this experience.

Brief description of the experience ___

When did the experience occur? (circle one)

a. less than 6 months ago
b. 6-12 months ago
c. 1-5 years ago
d. 5-10 years ago
e. 10-20 years ago
f. more than 20 years ago

Below are a number of problems that people sometimes report in response to traumatic or stressful life events. Please read each item carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Having upsetting dreams that replay part of the experience or are clearly related to the experience?					
2. Having powerful images or memories that sometimes come to your mind in which you feel the experience is happening again in the here and now?					
3. Avoiding internal reminders of the experience (for example, thoughts, feelings or physical sensations)?					
4. Avoiding external reminders of the experience (for example, people, places,					

conversations, objects, activities or situations)?					
5. Being ‘super-alert’, watchful or on guard?					
6. Feeling jumpy or easily startled?					
In the past month have the above symptoms:					
7. Affected your relationships or social life?					
8. Affected your work or ability to work?					
9. Affected any other important part of your life such as parenting or school or college work or other important activities?					

Below are problems or symptoms that *people who have had stressful or traumatic events sometimes experience. The question refer to ways* you *typically* feel, ways you, ways you *typically* think about yourself and ways you *typically* relate to others. Answer the following thinking about how true each statement is of you.

How true is this of you?	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. When I am upset, it takes me a long time to calm down					
2. I feel numb or emotionally shut down					

3. I feel like a failure					
4. I feel worthless					
5. I feel distant or cut-off from people					
6. I find it hard to stay emotionally close to people					
In the past month, have the above problems in emotions in beliefs about yourself and in relationships:					
7. Created concern or distress about your relationship or social life?					
8. Affected your work or ability to work?					
9. Affected any other important part of your life such as parenting or school or college work or other important activities?					

Retrieved from Cloitre et al. (2018).

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