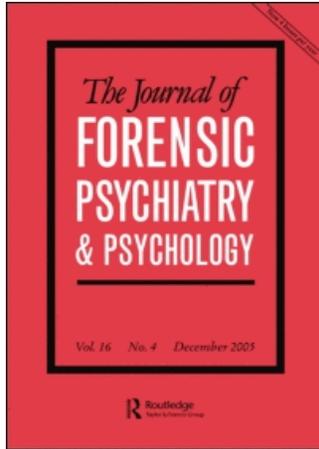


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Posttraumatic stress disorder and criminal responsibility

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Posttraumatic stress disorder and criminal responsibility

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There has been an increased interest in the relationship between posttraumatic stress disorder (PTSD) and violence, and in the factors that mediate their linkage. PTSD is a common, often underdiagnosed, condition with high levels of psychiatric comorbidity. It often has poor outcomes, with many cases becoming chronic, leading to substantial costs both to the individual and society as a whole. In this paper we report on the literature on PTSD, its diagnosis, assessment, and treatment. The difficulties encountered when assessing PTSD – the subjective nature of the symptoms, the risk of malingering, and the possibility of secondary gain – have been highlighted. Assessment and treatment in forensic settings is further complicated by the possibility of perpetrator PTSD. We have reviewed the prevalence of PTSD with particular reference to offender and forensic populations. The association between PTSD and violence, its relevance across the spectrum of criminal responsibility, and relevant case law are explored.

Keywords: Posttraumatic stress disorder; post-traumatic stress disorder; forensic psychiatry; criminal responsibility; diminished responsibility; insanity

Introduction

The term ‘posttraumatic stress disorder’ (PTSD) was first introduced into the *Diagnostic and Statistical Manual of Mental Disorders* in 1980 (DSM-III; American Psychiatric Association, 1980). However Samuel Pepys, who lived in London during the plague and the Great Fire of London, is said to have recorded posttraumatic symptoms in his diary (Daly, 1983). More recently, posttraumatic disorder has had its roots in military psychiatry with terms like ‘irritable heart of the soldiers’, ‘shell shock’, and ‘combat neurosis’ coming into use during World War I.

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The Vietnam War and the social context in which it took place allowed an examination of the psychological effects of trauma in general and combat in particular. This led to the classification of PTSD, and interest and research continued thereafter.

PTSD is only one of the many consequences of traumatic events. Other common posttraumatic disorders include depression, substance misuse, acute stress reactions, anxiety states, and personality change. Although in this review we will be focusing on PTSD, it is prudent to remember that it is unusual for these disorders to occur in isolation; co-morbidity is much more common (Bleich, Koslowsky, Dolev, & Lerer, 1997; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Shalev et al., 1998).

Epidemiology

The National Comorbidity Survey (Kessler et al., 1995) estimated the lifetime prevalence of PTSD to be 7.8%, with women more than twice as likely as men to receive a diagnosis of PTSD (10.4% vs. 5.0%) over their lifetime. This study included a traumatic events checklist, and found the lifetime prevalence of having at least one traumatic event (of the type required for diagnosis in DSM-III-R) to be over 60% for men and over 50% for women. Men are more likely to report experiencing combat trauma, physical attacks, and being threatened or kidnapped, while women more often report exposure to rape, and sexual molestation, neglect, and abuse in childhood. The National Vietnam Veterans Readjustment Study (NVVRS; Kulka et al., 1990) estimated that the lifetime prevalence of PTSD amongst Vietnam War veterans was 30.9% for men and 26.9% for females.

Higher rates of traumatic events and subsequent development of PTSD are found in those with major mental illness such as psychotic illness and borderline personality disorder. Mueser et al. (1998) looked at the lifetime prevalence of traumatic events and PTSD in 275 patients with severe mental illness receiving public mental health services in USA. They found the lifetime prevalence of at least one traumatic event to be 98% and the rate of PTSD to be 43%, although only 2% of the patients had this as a diagnosis in their charts. Multiple traumas and child sexual abuse were most predictive of PTSD. Neria, Bromet, Sievers, Lavelle, and Fochtmann (2002) examined rates of traumatic events and PTSD in 426 patients during their first psychiatric admission for psychosis, and found a prevalence of trauma exposure of 68.5% and a prevalence of PTSD of 14.3%. Although the rates in those two studies vary greatly, both are significantly higher than the general population rates found in the National Comorbidity Survey (Kessler et al., 1995).

PTSD not only has a high prevalence: there is increasing evidence that many sufferers experience chronic symptomatology. The NVVRS estimated that 15% of veterans still had PTSD 15 years after returning from Vietnam (Kulka et al., 1990). The National Comorbidity Survey (Kessler et al., 1995)

showed that more than a third of those with PTSD never fully remit even after many years, irrespective of whether they receive treatment or not.

PTSD is associated with high levels of co-morbidity (in over 80%) especially with depression and substance misuse (Kessler et al., 1995; Solomon & Davidson, 1997). In a prospective study of trauma survivors recruited from a emergency room and followed up for one year, Shalev et al. (1998) found that 29.9% of survivors met the criteria for PTSD at one month and 17.5% had PTSD at four months, and that co-morbid depression was found in 44.5% at one month and in 43.2% at four months.

In view of the prevalence and chronicity of PTSD, and the increasing number of referrals seen in our own practice from the procurator fiscal and lawyers where a history of trauma and a potential diagnosis of PTSD appear important diagnostic issues, we felt it was pertinent to evaluate the current status of PTSD, consider its treatment and assessment, and review its association with violence. In addition, we review the case law relevant to PTSD and criminal responsibility.

Methods

A systematic literature search was carried out in May 2005 within the following databases: CINAHL (from 1982), EMBASE (from 1980), MEDLINE (from 1966), PsychINFO (from 1967), and the Published International Literature on Traumatic Stress (PILOTS). The following key words were used for the searches both singularly and in combination: posttraumatic/post-traumatic stress disorder, forensic, and forensic psychiatry. Further searches on all above databases were conducted using the following keywords: criminal responsibility, diminished responsibility, and insanity defence/plea. A search of the Cochrane Library was also performed. Additional relevant literature was sought on the reference lists of retrieved articles. Searches were not restricted to English language only.

In addition, a systematic search of the following legal databases was carried out: the British and Irish Legal Information Institute, the World Legal Information Institute, Scottish Courts Opinions, Find Law (USA), and the Canadian Department of Justice.

Results

Diagnostic features

PTSD differs from other psychiatric disorders as it is diagnosed not only by a particular set of symptoms but also by the presence of a causative factor (the stressor). PTSD was introduced initially into DSM-III in 1980, and remains in DSM-IV (American Psychiatric Association, 1994). In 1992 PTSD was introduced into the International Classification of Diseases (ICD-10; World Health Organisation, 1992).

Both systems agree that the illness arises as a response to an event that is described in ICD-10' as exceptionally threatening or catastrophic and ... likely to cause distress in almost anyone' (p. 147). In DSM-IV the causative trauma involves experiencing, witnessing, or being confronted with event(s) which involve actual or threatened death or serious injury or threat to physical integrity (Criterion A1); the person's response involves intense fear, helplessness, and horror. The symptoms experienced are physiological and psychological responses to the traumatic event. There is broad agreement between the two systems with regard to the symptoms required for diagnosis.

To make a DSM-IV diagnosis of PTSD, the symptoms must be present for at least one month and cause clinically significant distress or impairment in social, occupational, or other important area of functioning. DSM-IV also subdivides PTSD into acute (duration of symptoms less than three months) and chronic (duration of symptoms more than three months). Neither the time period nor the subtypes are mentioned in ICD-10. Both, however, recognise the possibility of a latent period prior to the onset of symptoms.

Assessment

To assess for and establish a diagnosis of PTSD it is necessary to consider the nature of the trauma, assess for symptoms within each of the three core symptom groups, and establish a causal link between the two. It is also advisable to try to obtain objective evidence if possible about the nature and extent of the trauma.

Multi-modal assessment allows the potential limitations of any one psychometric instrument to be overcome. This is necessary as respondents can have difficulty with the format of a particular test, and altering the question in a standard interview may serve to increase or decrease understanding. Further, some respondents have a marked reluctance to reveal certain experiences to another individual directly. Therefore, self-report measures, while having their own limitations, are less influenced by the respondent's direct interpersonal communication with the evaluator (Newman, Kaloupek, & Keane, 1996). Further, the diagnostic utility of different PTSD measures varies across trauma populations: measures may have been validated only for very specific populations, such as combat veterans or sexual assault victims. A review of the various assessment measures is beyond the scope of this paper, but there are a number of excellent reviews (e.g., Newman et al., 1996). To allow truly multi-modal assessment, psychophysiological assessment is also covered briefly in this section.

The most common structured diagnostic interview encountered in the research literature was the Clinician-Administered PTSD Scale (CAPS; Blake, Weathers, & Nagy, 1995), which is considered the gold standard. The

CAPS assesses for the intensity and frequency of 17 core DSM-IV symptoms. Other clinician-rated interviews include the Structured Interview for PTSD (SI-PTSD) and the Structured Clinical Interview for DSM (SCID).

In addition, there is a range of self-report measures; however, care needs to be taken when using these. A recent study published in the *British Journal of Psychiatry* (Sumpter & McMillan, 2005) looked at the incidence of PTSD following traumatic brain injury in 34 participants and compared self-report measures, the Impact of Events Scale (IES), the Post-traumatic Diagnostic Scale (PDS), and structured clinical interview using the CAPS. While 59% fulfilled the criteria for PTSD on the PDS and 44% on the IES, only 3% were diagnosed using CAPS. Kristiansson, Sumelius, and Sondergaard (2004), assessing PTSD in a forensic psychiatric setting in Sweden, also commented on the lack of specificity and sensitivity of self-report measures (IES-22 and PTSS-10).

Psychophysiological tests offer a useful perspective in assessment because of their non-self-report nature, which minimises the impact of bias or response sets. Typical measures include heart rate, blood pressure, muscle tension, skin conductance level and response, and peripheral temperature. In relation to PTSD, psychophysiological assessment usually takes the form of challenge tests, with either standardised or personalised cues of potentially traumatic experiences being presented while measurements are taken. Individuals with PTSD will manifest elevations in these measurements. This method also allows the assessor to observe directly the individual's behaviour and gather subjective ratings of the experience (for further details see Shalev, Orr, & Pitman, 1993).

Malingering

The use of PTSD in the legal setting has caused controversy. The central dilemma concerns the subjective nature of the symptoms, and the risk of malingering or factitious PTSD for either financial gain or to diminish or remove responsibility for a criminal act.

Sparr and Atkinson (1986) highlighted the case of a man who was found not guilty of three counts of attempted murder because of a diagnosis of PTSD. Later he went on to sue the US authorities for not diagnosing or treating his disorder sooner. During this civil action it came to light that the man's claims regarding the extent of his combat exposure had been untrue. Lacoursiere (1993) described the case of a 36-year-old male claiming to have been injured in Vietnam and to have taken part in helicopter rescue missions. During the period of assessment his service records arrived, showing many inconsistencies. Later it was established that he had outstanding charges and was facing a possible lengthy jail sentence; the gentleman was diagnosed as malingering.

The need to verify and quantify the alleged trauma using impartial collateral sources has been highlighted by several authors (Lacoursiere, 1993; Resnick, 1995; Sparr, 1996). When trying to assess the possibility of malingering in these cases interviewing style is also important. Sparr (1996) and Resnick (1995) both suggest an initial open-style interview, in which the patient is asked to describe what the main difficulties are without the interviewer enquiring specifically about symptoms of PTSD. Someone who fails to mention symptoms of PTSD until specifically asked could be viewed with suspicion. This open interview is then followed by closed directive questioning, perhaps using one of the recognised structured assessments such as the CAPS or the SCID-I.

Resnick (1995) listed eight threshold criteria, listed below, to use when assessing someone for possible malingering in PTSD. If any one of these criteria is positive, a thorough investigation for malingering should be considered, including the possibility of inpatient assessment.

- poor work record
- prior 'incapacitating' injuries
- discrepant capacity for work and recreation
- unvarying, repetitive dreams
- antisocial personality traits
- over-idealized functioning before the trauma
- evasiveness
- inconsistency in symptom presentation

However, Resnick also stresses that unless there is substantial evidence, a diagnosis of malingering should not be made.

Management

In November 2004, the American Psychiatric Association (APA) published its 'Practice Guidelines for the Treatment of Patients with Acute Stress Disorder and Posttraumatic Stress Disorder'. The Cochrane Collaboration has published two recent reviews on the treatment of PTSD, one reviewing pharmacological treatment (Stein, Zungu-Dirwayi, van der Linden, & Seedat, 2005) and the other reviewing psychological treatment (Bisson & Andrew, 2005). The National Institute of Clinical Excellence (NICE) has also recently (2005) published its guidelines for the management of PTSD in adults and children in primary and secondary care.

Many factors require consideration in the management of PTSD. Initially, consideration needs to be given to screening, recognition, and diagnosis of the disorder. Then, treatment considerations include possible preventative measures, treatment of the symptom clusters, prevention of relapse, and preventing and treating comorbid disorders.

The current NICE guidelines recommend that those with severe posttraumatic symptoms within one month, or who present with PTSD within three months of the event, should be offered trauma-focused CBT, usually on an individual outpatient basis as a first-line treatment. This is similar to the APA guidelines. The recent Cochrane review (Bisson & Andrew, 2005) also concluded that individual trauma-focused CBT, stress management, and group trauma-focused CBT were effective in the treatment of PTSD, with some superiority in the evidence towards individual CBT.

The NICE guidelines advise that trauma-focused therapies be offered where symptoms are present for longer than three months; these trauma-focused therapies could include eye movement desensitisation and reprocessing (EMDR), which was developed by Shapiro (1989), as well as trauma-focused CBT.

NICE guidelines recommend that medication should not be offered routinely as a first-line treatment in PTSD unless the risk of further trauma means that starting psychological therapies is difficult or the individual has stated a preference not to engage in psychological treatment. The guidelines suggest the use of Paroxetine or Mirtazapine in primary care, with the use of older antidepressants such as amitriptyline or phenelzine restricted to specialist mental health settings.

The APA guidelines also recommend the use of antidepressants in the treatment of PTSD, especially the use of a selective serotonin reuptake inhibitor (SSRI). They do not recommend the use of psychological over pharmacological means of treatment, stating that the choice of treatment is dependent on a number of factors such as patient age, sex, previous history, and the presence or absence of comorbid conditions.

PTSD in forensic psychiatric settings

High psychiatric morbidity in the prison population is well established (Gunn, Maden, & Swinton, 1991; Maden, Taylor, & Brooke, 1995; Singleton, Maltzer, & Gatward, 1998). Although none of these three studies specifically looked at rates of PTSD, all found high rates of neurotic disorders and symptoms of the kind that would be found in PTSD.

A national study of psychiatric disorders in New Zealand prisons found current prevalence rates for PTSD of 16.6% for female prisoners and 9.5% and 8.5% in remanded and sentenced male prisoners (Brinded, Simpson, Laidlaw, Fairley, & Malcolm, 2001). In a sample of 1272 female detainees awaiting trial in Chicago, researchers found a lifetime prevalence rate of PTSD of 33.5% using the Diagnostic Interview Schedule (Teplin, Abba, & McClelland, 1996). Offenders undergoing forensic psychiatric assessment in Sweden were found to have a current prevalence of PTSD, using CAPS, of 36%. First-generation immigrants had much higher rates than native Swedes (Kristiansson et al., 2004).

A study at two maximum security facilities in north-east Germany found that 64% of the study population of forensic psychiatric inpatients had experienced at least one traumatic event; in addition, the lifetime prevalence of PTSD was 36% and current prevalence was 17% (Spitzer et al., 2001). While the rates of trauma exposure in this study are similar to the rates of trauma exposure found in general population studies (Kessler et al., 1995), the rates of lifetime and current PTSD are much higher and more consistent with the rates found in other psychiatric and offender populations. Although the small number of participants ($n = 53$) limits the conclusions that can be drawn, the type of trauma experienced was mainly childhood victimisation, including physical sexual and emotional abuse. The authors speculated that this supports the theory that childhood abuse increases the likelihood of later criminal behaviour. They also found that a significant proportion of those with PTSD had chronic symptoms.

PTSD and violence

Most of the literature on the association of PTSD with aggressive and violent behaviour deals with military samples, in particular Vietnam War veterans. This can cause some difficulty when trying to generalise these findings to non-combat populations. Further, there are many known risk factors for aggressive and violent behaviour including mental illness, substance misuse, and underlying personality factors, making it difficult to prove that the link between aggressive violent behaviour and PTSD is a direct one.

Non-combat populations

Reijneveld, Crone, Verhulst, and Verloove-Vanhorick (2003) showed an increase in aggressive behaviour in students followed up five months after a fire in a café in Volendam, the Netherlands, compared to controls. Similarly Goenjian (1993), assessing the mental health relief effort following the Armenian earthquake, found that after the first few months angry outbursts, fist-fights, stabbings, and reckless driving all became more common. These were studies of non-combat populations, and suggest an increase in aggressive behaviour following a traumatic event. However, whether this increase in aggressive behaviour is linked directly to PTSD or another confounding agent cannot be commented on.

Combat populations

Shaw, Churchill, Noyes, and Loeffelholz (1987) compared 31 incarcerated Vietnam veterans with 30 Vietnam veterans from the community. The prevalence of PTSD was similar in both groups at 39% and 37%

respectively; ratings of combat stress were also similar. However, a greater proportion of the inmates had an antisocial personality disorder; 36% compared to 7% of controls. The former also had higher rates of substance misuse. The authors concluded that there was no direct link between PTSD and violence.

However in a larger study investigating the relationship between PTSD and violence in 1140 incarcerated males in the US (most of whom had non-combat-related symptoms), Collins and Bailey (1990) concluded that there was a direct aetiological relationship, having controlled for demographics, antisocial personality, and problem drinking. Additionally, Freeman and Roca (2001) found higher levels of self-reported aggression and significantly higher incidence of potentially dangerous firearm-related behaviours among combat veterans with chronic PTSD than among a control group with primarily alcohol and substance misuse diagnoses.

In the National Vietnam Veteran Readjustment Study (NVVRS; Kulka et al., 1990), over 3000 American Vietnam War veterans were interviewed using a variety of assessment tools. Almost half of the veterans suffering from PTSD had been arrested or had been in jail at least once (34.2% more than once) and 11.2% had been convicted of a felony. They also reported an average of 13.3 acts of violence in the preceding year, compared to 3.5 in those without PTSD. However, those with PTSD also reported more combat exposure, making this a possible confounding factor.

Begic and Begic (2001) looked at violent behaviour in 116 combat veterans, nearly 70% of whom had a diagnosis of PTSD. They found that violent behaviour was more often present in combat veterans with PTSD than in those without (94.9% vs. 29.7%). They also showed that combat veterans with PTSD act aggressively more frequently. The PTSD group had 18.2 violent acts in the previous year, while the non-PTSD group had 2.7. This would suggest that aggression is not purely a consequence of exposure to trauma. There was no significant difference between the groups in terms of age, marital status, or working status, although the PTSD group did have significantly fewer years of education. Alcohol problems were also more common in the PTSD group (40% compared to 29.7%).

Lasko, Guruits, Kuhne, Orr, and Pitman (1994) measured self-reported aggression, hostility, and anger in Vietnam Veterans both with ($n = 27$) and without PTSD ($n = 15$). They found that the PTSD group scored significantly higher than the non-PTSD group on the Buss-Durkee Hostility Inventory, the Past Feelings and Acts of Violence Scale, the Episodic Dyscontrol Scale, and the State-Trait Anger Expression Inventory (STAXI). The PTSD group scored lower on controlling anger and higher on expression of anger on the STAXI, compared to the non-PTSD group. They also found that the link between aggression and PTSD was not related to combat exposure.

Similarly Chemtob, Hamada, Roitblat, and Muraoka (1994) investigated the connection between PTSD and anger. To control for various

confounding factors they compared a group of Vietnam War veterans with PTSD ($n = 24$) a group of 'well adjusted' Vietnam War veterans ($n = 23$) and a group non-combatant Vietnam era veterans with other psychiatric diagnoses ($n = 12$). Although somewhat limited by small numbers, as was the Lasko study, they found that combat-related PTSD was closely related to increased anger. The anger was not attributable to combat exposure or to the presence of concurrent psychiatric disorder, as these were controlled for. Individuals with comorbid substance abuse or antisocial personality disorder were excluded from the study. There is, therefore, some evidence available to suggest a direct link between PTSD and violent and aggressive behaviour, mediated by anger.

Silva, Derecho, Leong, Weinstock, and Ferrari (2001) attempted through various case studies to devise a possible classification of psychological factors leading to violent behaviour in PTSD. This included flashback-associated violence, sleep disturbance-associated violence, mood lability-associated violence, and combat addiction violence. In the absence of more extensive studies, and in light of their potential importance, these will be expanded on below, with contributions from other researchers also noted.

Flashback-associated violence

Flashbacks are suggested as an important aetiological factor in generating violent behaviour (Silva et al., 2001). In explaining, Silva et al. stress the dissociative nature of these experiences, the intense feelings of derealisation and depersonalisation, and the intense associated emotional responses. Their case example involved a patient who, during a flashback experience, saw the face of the victim change into the face of an enemy – a phenomena they termed 'flashback-induced misidentification of others'. A previous paper by Silva detailed five further case studies involving 'flashback' experiences that led to the patient become dissociated from the rest of consciousness, causing misidentification (Silva, Leong, Harry, Ronan, & Weinstock, 1998).

In 2004, Moskowitz reviewed the literature on dissociation and violence, including its occurrence in the context of PTSD. Four of the key points are: dissociation is associated with an increase in violence in a wide range of populations; about one quarter of prison inmates report pathological levels of dissociative experiences; dissociative flashbacks to prior traumatic events can drive violent behaviour by causing the person to believe they are back in a dangerous situation; and amnesia regarding violent crime is frequent.

Spritzer et al. (2001) included the Dissociative Experiences Scale (DES) in their assessment of forensic inpatients in Germany, and found significant scoring levels on all subscales apart from amnesia.

In his review, Moskowitz (2004) noted the lack of any systematic study of dissociation and violence in PTSD. Flashbacks with associated

dissociation and possible impairment in reality testing have obvious legal ramifications; this will be discussed later in the paper.

Sleep disturbance-associated violence

Sleep disturbance is a common feature of PTSD, with a high frequency of insomnia as well as associated nightmares that are often very vivid. Silva and colleagues (2001) describe a patient with combat PTSD who, during a vivid combat dream, began swinging his arms forcefully, leading to him fracturing his wife's rib. They point out that sleep disturbance-associated violence tends to be uncommon and the violence is usually unplanned.

Mood lability-associated violence

Silva et al. (2001) describe a 52-year-old Vietnam War veteran with chronic hostility, irritability, mood swings, and anxiety. He tended to overreact even to quite minor provocation and, since returning from Vietnam, had been jailed on numerous occasions for various physical fights. They called this mood lability-associated violence.

Studies have shown that PTSD sufferers have generally increased levels of anger, hostility, and impulsivity (Chemtob et al., 1994; Lasko et al., 1994). In particular, Lasko et al.'s (1994) PTSD group scored lower on anger control and higher on anger expression than their non-PTSD group, making them as a group less able to control violent reactions.

Combat addiction

A person with combat addiction seeks to re-experience previous combat experiences by engaging in a repeated pattern of aggressive behaviour. The individual effectively 'lives on the edge' both physiologically and psychologically to create a state parallel to the original trauma. These individuals are usually aware that they are engaging in antisocial behaviour, and there is not the impairment in reality testing sometimes seen in flashback states.

Solursh, Meyer, and Nolan (1991) obtained data from a serial sample of 100 Vietnam War veterans attending outpatient clinics at the Veterans Administration Centre in Augusta, Georgia. They found that 81% were unable to stay away from weapons; 94% described the re-experiencing phenomena as exciting and associated with a 'rush' or a 'high' followed by a 'down' when not reliving these experiences; 59% reported seeking physical fights for excitement after leaving military service. It would appear that heightened arousal states might cause these men to become addicted to violence. This pattern of increased arousal is seen as a maintaining factor in other types of behaviour, for example in sexual offending.

Perpetrator PTSD

The first report of perpetrator PTSD was in 1986, when Harry and Resnick published three case histories of men who developed PTSD after committing homicides. They recognised the possibility that arrest, interrogation, and incarceration could also act as traumatic events.

Pollock (1999) studied 80 offenders referred to a regional forensic psychiatric service over a period of five years, and found that 52% of the sample met DSM-III-R criteria for PTSD. In 82% of these cases the index offence was reported as a traumatic event. No evidence of other significant traumatic history was found in 70%, suggesting a significant proportion whose PTSD symptoms appeared to be linked to their index offence.

Byrne (2003) also examined the issue of trauma as a consequence of offending. After reviewing the literature, his view was that offenders who develop PTSD as a consequence of their offence do so because of an interaction of various factors, including characteristics of both the offence and the offender. In PTSD cases, the offence tended to be unplanned, with a degree of provocation if the victim was known; the perpetrator tended to be a controlled inhibited type without an extensive criminal history.

Grey et al. (2003) and Papanastassiou, Waldron, Boyle, and Chesterman (2004) investigated PTSD in mentally disordered offenders who had developed the symptoms of PTSD primarily as a result of their offence. Grey et al.'s sample ($n = 37$) was recruited from medium secure units in the UK; participants had committed serious violent or sexual offences. Papanastassiou et al.'s sample comprised 19 mentally ill offenders who again had been inpatients in a medium secure unit; participants had committed homicide. Both studies found high rates of PTSD. Grey et al. reported current rates of PTSD of 33% using DSM-III-R criteria, with significant symptomatology in a further 54% using the IES. Papanastassiou et al. used the CAPS and found a lifetime rate of PTSD of 58%, with a current rate of 42%, and evidence of significant posttraumatic symptomatology in a further 21%. Both studies suggest that mentally disordered offenders are susceptible to developing PTSD directly as a result of the traumatising effects of their own offences.

These findings should be considered preliminary, but they raise several important issues. If a person develops PTSD as a result of an offence, this will not be relevant when considering criminal responsibility. However, it is likely that the offender may be more likely to 'plea bargain' in order to avoid a trial and reliving the trauma. Grey et al. (2003) also highlight an interesting dilemma: offender-focused work may well increase a person's vulnerability to develop PTSD. If unrecognised and untreated, it may have important implications for long-term prognosis and rehabilitation. More research in this area is required.

PTSD and criminal responsibility

With a growing body of evidence linking PTSD to violent and aggressive behaviour, it is not surprising that PTSD is being used as a psychiatric defence, either to remove or reduce criminal responsibility or as a mitigating factor in sentencing. Forensic psychiatrists may be asked by the criminal justice system to comment on the causal relationship between the mental illness and the offence, the availability and effectiveness of treatment, and the influence the presence of a mental disorder has on future risk. The use of PTSD in criminal law, either as a defence or as a mitigating factor, has always been controversial. Sparr and Atkinson (1986) highlighted many of the difficulties, including the subjective, often non-specific, nature of the symptoms and the need to prove a causal link between the symptoms and the stressor as well as a causal link between PTSD and the criminal act. The subjective nature of the symptoms means that the possibility of a factitious disorder needs consideration.

PTSD and insanity

In Scotland the current insanity defence is based on the Lord Advocate's instruction to the jury in *HMA v Kidd* 1960:

[T]o excuse a person from responsibility for his acts on the grounds of insanity, there must have been an alienation of reason in relation to the act committed. There must have been some mental defect, ... by which his reason was overpowered, and he was thereby rendered incapable of exerting his reason to control his conduct and reactions.

In England and Wales the defence of insanity is based on the M'Naghten case of 1843:

[A]t the time of committing the act the party accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know what he was doing was wrong.

In America different states have different penal codes; tests for insanity can differ between states. Some states base their definition on the M'Naghten case. Others use the American Law Institute Model Penal Code, which states that a person is to be considered insane if 'because of a mental disease or defect he lacks substantial capacity either to appreciate the criminality of his conduct or to conform his conduct to the requirements of the law'. The second of these tests appears to be a much broader concept of insanity than that held by both Scottish and English systems.

Sparr (1996), after reviewing the issue of PTSD and criminal responsibility, felt that the restrictive nature of most insanity criteria

worked against the use of PTSD as an insanity plea, but that PTSD dissociative states should qualify if an individual's cognitive abilities were completely altered. Sparr went on to give examples of various cases in the US where the insanity plea had been successful: *State v Cocuzza* (1981), *State v Heads* (1981), and *State v Mann* (1983). Insanity applies only in cases where one could argue that an individual had lost touch with reality or had lost the ability to distinguish right from wrong. This is a view shared by Packer (1983), who concluded that only in the rare instances where reality is impaired in brief psychotic or dissociative states should insanity be considered; other symptoms of PTSD are not sufficient. He also makes the argument that the emotional impact of a traumatic event is irrelevant when considering the issue; understanding someone's behaviour is not an excuse for that behaviour.

The infrequent use of PTSD as an insanity defence is supported by Applebaum and colleagues, who studied the use of the insanity plea over eight states in America between 1980 and 1986 (Applebaum et al., 1993). Of the 8163 individuals pleading not guilty by reason of insanity, only 28 (0.3%) had been given a primary diagnosis of PTSD. Individuals from the PTSD group were more often found guilty, although this finding was not statistically significant. In our searches of the legal databases we were only able to find one UK case in which PTSD had been used successfully in an insanity plea (Mackay & Kearns, 1999). In the US, the use of PTSD in insanity pleas appears more established; this is perhaps unsurprising given the effect of the Vietnam War and the less restrictive criteria in some states. However, even in the US this appears infrequent, unlikely to be successful, and related to dissociation.

PTSD and automatism

PTSD may have some relevance in automatism. Here the person is said to have no *mens rea*, as the offence is committed when an individual has no conscious control of his/her body (e.g., when sleepwalking).

In England and Wales there are two types of automatism – sane and insane – that have been long established in case law. If the automatism is thought to be due to an internal cause (e.g., sleepwalking or epilepsy), it is thought to constitute a disease of the mind. This is termed an insane automatism and is dealt with in a similar manner to the insanity defence. If, on the other hand, the automatism is thought to be due to an external cause (e.g., a blow to the head, hypoglycaemia, or dissociation), it is termed a sane automatism and results in complete acquittal.

In Scotland, *HMA v Cunningham* (1963) concluded that absence of *mens rea* could only occur in cases of insanity and therefore the English concept of sane automatism was not recognised. However more recently in *Ross v HMA* (1991), involuntary intoxication was used successfully as a cause of

absence of *mens rea* and led to a complete acquittal, therefore establishing sane automatism as a concept in Scottish case law.

Adshead and Mezey (1997) looked at posttraumatic stress reactions and criminal law, and reached the view that dissociative states arising from PTSD might be one of the only psychological states which would still qualify as a sane automatism. They gave as an example the case of *R v T* ([1990] Criminal Law Review 256). In this case, T was charged with grievous bodily harm on a stranger with a knife. The incident had occurred three days after another stranger had forced himself into her house and raped her. The judge agreed to allow the jury to consider sane automatism on the grounds that she was suffering from an acute PTSD with associated dissociative episodes. Although the jury did not accept the plea and she was convicted, the judge accepted her experiences when considering sentencing and she received a suspended sentence.

Sparr (1996) informs us that in the United States PTSD is on a short list of mainly organic disorders that could result in a dissociative state, unconsciousness, automatism, or temporary insanity. As in the UK, in the US automatism can be seen as separate from insanity and can result in complete acquittal without hospitalisation. In the case of *People v Lisnow* (1981), a Vietnam veteran who had assaulted a maitre d' and been found guilty successfully overturned the conviction on appeal on the grounds of unconsciousness. Expert testimony stated that the defendant was traumatised by previous experience in the Vietnam War and, due to this trauma, he had no memory of the offence because of unconsciousness as a result of a dissociative state. Other successful cases in the US described in Sparr (1996) include *People v Pettibone* (1980) and *State v Felde* (1982).

PTSD and diminished responsibility

Given the standard required for most insanity pleas, PTSD is more suited to pleas of diminished responsibility. In those jurisdictions which recognise diminished responsibility, this plea is reserved for cases of murder, which carry a mandatory life sentence. If proved, then the charge becomes one of culpable homicide in Scotland or manslaughter in England and Wales.

In the US, approximately 50% of states do not allow evidence of mental illness that does not amount to insanity. In the remainder, terms including diminished responsibility, partial responsibility, partial insanity, and partial capacity are used, when seeking to determine which crime has been committed. For example, with a first-degree murder charge, if the defendant were felt to lack *mens rea* (i.e., the mental ability to premeditate the act), he/she could only be found guilty of second-degree murder.

In Scotland there has recently been a change in the common law definition of diminished responsibility. In 1999 Kim Galbraith was found guilty of the murder of her husband when her plea of diminished

responsibility was rejected. In *Galbraith v HMA* (2002), the appeal court overruled the previous narrow definition, stating, '[T]here is no requirement that his state of mind should have bordered on insanity.' The appeal court went on to redefine what was needed for a jury to consider the plea: 'evidence that, at the relevant time, the accused, was suffering from an abnormality of mind which substantially impaired the ability of the accused, as compared to a normal person, to determine or control his act'. This abnormality of mind could take various forms, including the 'psychological effects of severe trauma', as long as it is recognised by the 'appropriate science'. The Galbraith ruling brought Scottish case law on diminished responsibility closer to the English definition contained within the Homicide Act 1957, Section 2 (1):

Where a person kills or is party to a killing of another, he shall not be convicted of murder if he was suffering from such an abnormality of mind (whether arising from a condition of arrested or retarded development of mind or any inherent causes or induced by disease or injury) as substantially impaired his mental responsibility for his acts and omissions in doing or being party to the killing.

Given the high threshold for insanity pleas and the broadening of the definition of diminished responsibility, it is to the latter that PTSD is most applicable in criminal proceedings.

When considering the association between combat exposure and criminal behaviour in Vietnam War veterans, Sparr suggested that for both insanity and diminished responsibility pleas it is crucial to establish a valid link between the PTSD symptoms, the stressor, and the criminal behaviour (Sparr, 1996; Sparr, Reaves, & Atkinson, 1987). These papers suggest a variety of possible interconnecting psychodynamic conditions resulting from war experiences that could help in understanding criminal conduct. While not removing responsibility, these factors may reduce liability or be used as mitigating factors or for pretrial bargaining. They include:

- an attempt to be punished so as to overcome feelings of guilt
- the repetitive pursuit of dangerous or risky behaviour ('sensation seeking'; this is similar to the combat addiction violence described by Silva et al., 2001)
- substance abuse used to numb psychic pain, but which also acts as a disinhibitor (although substance misuse on its own is not sufficient in the UK to meet the criteria of diminished responsibility)
- dissociative states, as discussed above; these are the mainstay of insanity defences although as Applebaum et al. (1993) showed these defences are rarely successful and therefore dissociation may become relevant in diminished responsibility pleas.

In the UK, two reports were published in 2004, one for the Law Commission on partial defences to murder and the other for the Scottish Law Commission on insanity and diminished responsibility. In Appendix B of the former report, Professor R.D. Mackay reports that 157 cases between 1997 and 2001 used diminished responsibility as a defence. Of these, in only seven cases was the plea of diminished responsibility based on a diagnosis of PTSD, and in one of the cases as well as having PTSD the defendant also had a diagnosis of depression and delusional jealousy. In five of the seven cases the diminished responsibility plea was successful and in all but one (the aforementioned case with comorbidity) the outcome was a custodial sentence. Therefore, despite PTSD being recognised as a mental illness and despite the fact that the courts had come to the conclusion that in five of the seven cases PTSD had played a significant role in their offending, none of the defendants were felt to warrant admission to hospital.

In Professor Mackay's study for the Law Commission, there is also one reference to battered woman's syndrome, in the case of a 21-year-old woman who had killed her 27-year-old partner. Expert reports were divided; although two reports diagnosed battered woman syndrome, none commented on the issue of diminished responsibility, stating that this was a matter for the court. One of the reports did raise the issue that battered woman's syndrome should be taken into account when considering provocation. Her plea of manslaughter was accepted and she was given a three-year probation in what the trial judge described as a 'wholly exceptional case'.

In the *Scottish Law Commission Report on Insanity and Diminished Responsibility* there is only one reference to PTSD, relating to the case *HMA v McLeod* (2002), in which the defendant suffered from PTSD as a consequence of child sexual abuse but was also acutely intoxicated at the time of the offence. In the direction to the jury it was clarified that for diminished responsibility to be considered in this case the abnormality of mind (i.e., the PTSD) had to be a substantial cause of the attack, but it did not have to be the only or the main cause.

Conclusion

In this paper we have examined the diagnostic boundaries of PTSD, its clinical assessment, its prevalence, its chronicity, and its treatment. From a forensic viewpoint we reviewed the prevalence in offender populations, the theoretical relationship between PTSD and violence, and the relevant case law.

While in our review of the literature we specifically looked at PTSD, it is important to remember that PTSD is only one possible outcome of exposure to trauma and that PTSD on its own is the exception rather than the norm. A review of the sequelae of child sexual abuse, partial PTSD, and acute stress reactions and adjustment reactions and their relevance in forensic psychiatry and in criminal responsibility was beyond the scope of this paper.

Although the relationship between PTSD and violence is complex, there does appear to be a direct association mediated either by anger or the core features of PTSD including flashbacks, sleep disturbance, labile mood, and increased anxiety, as well as the phenomenon described by Silva et al. (2001) as combat or action addiction. Comorbid disorders, particularly depression and substance misuse, have an established relationship with aggression via disinhibition or an increase in impulsivity.

PTSD is relevant across the spectrum of criminal responsibility including insanity and diminished responsibility. It is increasingly important that we become experienced in the assessment, diagnosis, and treatment of PTSD. Assessment remains complex and is complicated by the subjective nature of the symptoms, the possibility of factitious PTSD, and the role of secondary gain. Comorbidity further complicates the picture, particularly substance misuse which itself has a strong association with violence and aggression. Assessment needs to establish not only a causal link between the trauma and the symptoms but also the presence of the diagnosis prior to the offence, and to attempt to dissect often complex comorbidity. Different jurisdictions vary in terms of the weight they place on establishing a direct causal link between PTSD and the criminal act.

When assessing PTSD, it is important to establish the presence of the core symptoms – that is, intrusive phenomena, symptoms associated with avoidance and emotional numbing, and symptoms suggestive of hyperarousal. As always, this should be done through careful history and mental state examination, although the process can be aided by the use of some of the structured assessment tools available. Our review of the literature highlighted the vast array of assessment tools available for PTSD; however, those reliant solely on self-report must be used with care given concerns about the risk of factitious disorder. The CAPS appears to be the tool favoured by many researchers. It is important to note, first, that we were unable to find that any of these tools had been validated in forensic populations and, second, that the CAPS can be lengthy to use, especially if there is more than one trauma.

It is becoming increasingly recognised that many psychiatric patients will have comorbid PTSD, although this generally goes undetected and untreated. There is now evidence that this is a particular risk among forensic psychiatric patients, which can have long-term implications – for the treatment of their PTSD, for the treatment of their comorbid illness, and for ongoing risk. From the available studies it is clear that PTSD as a comorbid condition is underdiagnosed and therefore likely to be untreated in forensic populations. It is a chronic disorder and, if associated with increased aggression, a risk factor which is often unidentified and unmanaged. Care needs to be taken with forensic populations to identify those who have developed PTSD as a direct consequence of their index offence (perpetrator PTSD).

The evidence base relating to the treatment of PTSD, especially as regards maintenance treatment, is not extensive. The available evidence does

suggest the superiority of certain pharmacological and psychological treatments over others, and this has formed the basis for the recent APA and NICE guidelines. The difficulty for professionals working in forensic settings is the lack of suitably experienced personnel to provide the psychological treatments required. The effectiveness of many of the recommended treatments for PTSD (pharmacological and psychological) remains untested in offender populations.

As professionals working in the forensic field we need to be aware of PTSD, its links to offending behaviour, and its effect on criminal responsibility if we are to fulfil our role as expert witness to the courts. The use of PTSD in criminal settings is more established in England and Wales than in Scotland, although the vast majority of cases still come from the United States. The absence of any rating procedure or tool in the forensic setting, and complex comorbidity, makes the assessment of criminal responsibility difficult. Furthermore, the lack of validation of treatments in forensic populations is a further challenge in secure settings, where perpetrator PTSD may be a relevant although underdiagnosed disorder.

Declaration of interest

The third author, Alastair Hull, has previously received educational sponsorship and honoraria for presentations from various pharmaceutical companies who market medications used in posttraumatic stress disorder treatment in the UK.

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