

POST-TRAUMATIC STRESS DISORDER (PTSD) AND VIOLENCE

The American Psychiatric Association defines Post-Traumatic Stress Disorder (PTSD) as exposure to a traumatic event, followed by persistent re-experiencing of that event, together with two further clusters of PTSD symptoms: avoidance and increased arousal.

WAVE's recommendations for actions to reduce violence in society include an appeal for more attention to be paid to the role of PTSD in offending violent criminals, and for a preventative approach to be taken to treat PTSD before its sufferers find themselves in the prison system.

We offer four propositions:

- 1) A high proportion of violent prisoners and ex-prisoners are suffering from PTSD, probably as the result of childhood abuse and neglect.
- 2) PTSD is particularly likely to exist in sex offenders who were themselves sexually abused as children.
- 3) There are demonstrated, effective, methodologies for treating PTSD.
- 4) Treating PTSD has a beneficial impact on outcomes with violent offenders.

WAVE is seeking to establish whether current therapeutic approaches to address re-offending by violent prisoners or ex-prisoners, in the UK prison system, largely ignore the dimension of PTSD.

What is Post-Traumatic Stress Disorder (PTSD)?

Individuals relate to the events which occur in their life by means of an internal, mental model of the world, which they use to interpret incoming information.^(Horowitz, 1986a, 1986b) Horowitz also proposes there is an inherent drive to make our mental models coherent with current information (the 'completion principle').

When new data comes along - e.g. until now all dogs have been friendly, then to our surprise one dog bites - we make adjustments to the mental model, which is growing and evolving throughout our lives.

A traumatic event presents information which is incompatible with the existing model, requiring massive changes to it. Complete processing and integration of the new experience and data take time. Following a traumatic event, most people have intrusive thoughts about what happened. These intrusions help them learn from the experience and either plan appropriate actions, or readjust expectations. However, repeat intrusions of the traumatic event cause emotional stress, so the body protects itself by "inhibition", which modulates the flow of information to prevent emotional exhaustion. If inhibitory control is not strong enough, intrusive symptoms such as nightmares and flashbacks emerge. When inhibition is too strong, avoidance symptoms such as numbing occur.

In processing trauma, the person oscillates between avoidance and intrusion until processing is 'completed'. The mental model has been adjusted and a revised model is now in place. The trauma may be stored as an unfortunate event belonging to the past.

In Post-Traumatic Stress Disorder (PTSD), completion of the information processing does not take place. When people develop PTSD, the sensations and emotions of the event start to lead a life of their own.^(van der Kolk and McFarlane, 1996) Replaying the trauma leads to sensitisation; every replay increases distress.^(McFarlane et al, in press; Post 1992)

The American Psychiatric Association defines PTSD, in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition - American Psychiatric Association, 1994 (DSM-IV™) as exposure to a traumatic event, followed by persistent re-experiencing of that event, together with two further clusters of PTSD symptoms: avoidance and increased arousal.

Re-experiencing

Re-experiencing may take the form of recurrent and intrusive images, thoughts and perceptions (or, in young children, repetitive play); dreams; illusions, hallucinations and flashbacks; and intense distress at exposure to cues which remind the sufferer of the trauma.

Avoidance

Avoidance includes efforts to avoid thoughts, feelings, conversations, activities, places or people associated with the trauma; inability to recall an important aspect of the trauma; detachment and estrangement; restricted emotions; and sense of foreshortened future. DSM-IV requires at least three of these to be present for PTSD to be diagnosed.

Increased arousal

Increased arousal may take the form of sleep difficulties, irritability or anger outbursts, difficulty concentrating, hypervigilance, or exaggerated startle response. DSM-IV requires at least two of these to be present for PTSD to be diagnosed. Further, DSM-IV requires that the duration of the symptom is more than one month, and causes clinically significant distress.

Memory mechanisms in PTSD

Emotion-laden memories play a key role in traumatic memory. Brown & Kulik (1977) argue there is a special "flashbulb memory" for encoding emotion-laden memories. By enabling the organism to learn quickly about threat without having to undergo repeated exposure to the stimulus (e.g. a leaping lion) such a mechanism would have evolutionary survival value, and might account for the re-experiencing phenomena.

Brewin, Dalgleish & Joseph (1996) explain PTSD by two knowledge sets in memory. The first set, verbally accessible, is the person's conscious experience of the trauma. The second set, visual, auditory, olfactory, physiological and motor, are situationally accessible when the person is in a context similar to the trauma, enabling the original experience to be recreated.

Memory storage during trauma is accompanied by extreme levels of psychological and physiological arousal, and important elements of the memory, necessary for completion, can only be accessed efficiently when in a similar affective state. (Keane, 1976; Weingartner et al, 1977)

1. A high proportion of violent prisoners and ex-prisoners suffer from PTSD.

Numerous studies have demonstrated that both adults and children who have been traumatised are likely to turn aggressive.

There is research evidence that:

- (a) a significant proportion of people who have suffered violent or sexual abuse in childhood become traumatised, frequently leading to PTSD;
- (b) a significant proportion of violent offenders in prisons and young offenders institutes suffer from PTSD.

Following the Vietnam war it was observed that many Vietnam veterans became violent on return to civilian society, even where they had not been violent beforehand. The root cause of this behaviour has been traced to the fact that combat exposure frequently leads to PTSD, and there is a known, strong correlation between PTSD and aggressive behaviour. Problems with aggression against others have been particularly well documented in war veterans, in traumatized children, and in prisoners with histories of early trauma. (Lewis, 1990, 1992)

Abuse during childhood frequently leads to PTSD (Dutton, 1995; Dutton, 1998; Perry, 1994; Pynoos, Steinberg & Goenjian, 1996; van der Kolk, 1987; de Zulueta, 1993) and sharply increases the risk for later delinquency and violent criminal behaviour. Numerous studies have found a direct relationship between severity of childhood abuse and later tendencies to victimise others. (Burgess et al, 1987; Green, 1983; Pynoos & Nader, 1988; Widom, 1987; Mezey & King, 1989; Burgess et al, 1984; Groth, 1989; Lewis et al, 1988; Lewis et al 1989; van der Kolk, 1996; Werner, 1989)

Lewis et al (1988, 1989) have extensively studied the association between childhood abuse and subsequent victimisation of others. As an example, in one study they found that of 14 juveniles condemned to death for murder in the United States in 1987, 12 had been brutally physically abused and 5 had been sodomised by relatives. (Lewis et al, 1988)

Consistent with this, numerous studies show a relationship between prison or offending populations and PTSD. Collins and Bailey (1990) found a relationship between PTSD and imprisonment for violence; Long (1991) found high rates of PTSD in imprisoned youths; Raeside

(1994) found PTSD "almost ubiquitous" in Australian female prisoners and that this contributed significantly to their criminal histories. (McFarlane, 1996) Steiner et al (1997) found very high rates of PTSD amongst violent juvenile prisoners. Of attendees at a drug rehabilitation unit, 59% had an association with PTSD. (Fullilove et al, 1993) A study at the University of Dresden (personal communication from Dr Jurgen Hoyer, Klinische Psychologie und Psychotherapie, 27 June 2000) found a large proportion of mentally disordered, sex offenders in a German forensic hospital met the DSM-IV diagnosis of PTSD.

The correlation between PTSD and violent behaviour has major implications for treatment of offenders and ex-offenders. If PTSD is not treated, the likelihood of a recurrence of violent behaviour is much higher.

2. PTSD is particularly likely to exist in sex offenders who were themselves sexually abused as children.

Sexual abuse is defined by Kempe & Kempe (1978) as "*the involvement of dependent, developmentally immature children and adolescents in sexual activities that they do not fully comprehend, to which they are unable to give informed consent, or that violate the social taboos of family roles.*" Abuse can be active (e.g. contact) or passive (e.g. exposure to pornography).

Childhood sexual abuse often, but by no means always, leads to PTSD.

Frequency

An NSPCC (1995) survey of childhood experiences found 11% of adults reported sexual abuse involving physical contact during their childhood. Girls suffered contact abuse 3 times more than boys. Estimated numbers of children sexually abused every year are 250,000 for the United States (US Justice Dept., in van der Kolk & McFarlane, 1996) and up to 100,000 for the UK. (National Committee of Enquiry, in Utting, 1997)

Effects

The vast majority of evidence reports very harmful effects from child sexual abuse. (Grabosky, 1989; Kendall-Tackett, Williams & Finkelhor, 1993) Adults with a history of child sexual abuse have more long-term emotional, behavioural and interpersonal problems than victims of any other form of child maltreatment. (Bagley & McDonald, 1984; Egeland, 1988; Freud, 1981) Effects can include depression, low self-esteem, powerlessness, loss of control, lack of trust in others (Peters 1988; Jehu 1988; Watkins and Bentovim 1992) and difficulties in managing emotions and feelings. (Steele and Alexander 1981)

Recent research advances in brain chemistry and physics also demonstrate serious consequences from childhood sexual abuse, including major neuroendocrine disturbances (DeBellis et al, in press), loss of normal electrical synchronisation (Teicher et al, in press) and reduction in hippocampal volume (Stein et al, 1994; Bremner et al, in press), presumed to affect memory. Perry has shown stark comparisons of the CAT-scans of three-year olds who had suffered serious abuse (of all types), showing the brains of the abused children are significantly smaller, with many dark areas where grey matter has not developed. (Perry, 1994, 1996; Perry et al, 1995)

A number of factors affect the severity of the damaging effects, including closeness of relationship with the perpetrator, frequency of sexual contact, duration and penetrative sexual acts.

Should the traumatic after-effects of childhood sexual abuse be categorised within PTSD?

Finkelhor and Browne's (1986) "Traumagenic Dynamics" model identifies four characteristics of child sexual abuse which result in long-term trauma: traumatic sexualisation, betrayal, powerlessness, and stigmatisation. Finkelhor (1988) proposed that the after effects of child sexual abuse should not be treated as a type of PTSD, for three reasons: 1) He was satisfied with his own model; 2) Only a proportion of child sexual abuse sufferers develop PTSD; 3) Survivors of sexual abuse suffer a wider range of symptoms than PTSD.

Notwithstanding Finkelhor's 1988 view, the general assumption by researchers working in the field of PTSD is now that childhood sexual abuse can result in PTSD. Interfamilial abuse is increasingly recognised to produce complex PTSD, with severe symptoms. (Cole & Putnam, 1992; Herman, 1992; van der Kolk et al, 1993)

This is reflected in the various scales used to measure traumatic stress. Specific measures of childhood sexual abuse are found in each of: the Potential Stressful Events Interview (Kilpatrick, Resnick & Freedy, 1991); the Traumatic Events Questionnaire (Vrana & Lauterbach, 1994); the Traumatic Life Events Questionnaire (Kubany, 1995); and the Childhood Maltreatment Questionnaire. (Demaré, 1993) General measures of sexual abuse are found in the Traumatic Stress Schedule (Norris, 1990) and the Trauma History Questionnaire. (Green, 1995)

The DSM-IV requirements of duration and clinically significant distress or impairment in social functioning are certainly met by many childhood sexual abuse victims, so the remaining requirements for a diagnosis of PTSD are: sufficient symptoms of re-experiencing, avoidance and increased arousal.

Re-experiencing

Kate Cairns, a child care consultant who has spent over 20 years caring for sexually abused children, provides graphic descriptions of what it is like to live with such victims: (Cairns, 1999)

"Nightmares and night terrors are both frequent and common, and may be traced to traumatic events out of waking memory...Many ordinary events may act as triggers generating 'flashbacks'...I have seen such episodes triggered by visual stimuli (a green car, a black beard, a camera); sounds (a baby crying, heavy breathing after exertion); smells (disinfectant, blood); touch (a touch on the shoulder, washing hair); and the taste or texture of food."

Cairns goes on to describe symptoms of re-enactment, from intense emotional reactions ("limbic storm rage") to cues, and psychosomatic disorders.

Another expert, with extensive experience of clinical work with families in which sexual abuse has occurred, states that the abused children commonly re-enact the activities to which they have been subjected, in the form of sexualisation, or victim responses. Once initiated, such patterns become self-maintaining, and may be triggered towards other children. (Bentovim, 1991) Bentovim's observations are borne out by the statistics that in the UK, the peak age for perpetrating indecent assault offences is 15; for other sexual offences (excluding rape) it is 16. (Tarling, 1993)

Bentovim describes sexually abusive acts being re-experienced in ideational, affective and somatic forms. The abused describe flashbacks and nightmares, talk about abuse, play out abuse through inappropriate sexual activities, and visualise sexually abusive experiences through drawings, day dreaming and dissociative states. Re-experiencing is triggered by seeing or meeting the individual who carried out the abusive act, or by places, people or things viewed as symbolic of the act itself. (Bentovim, 1991)

Avoidance

Bentovim (1991) also describes a numbing of feelings, withdrawal, unwillingness to talk about abuse, and an apparently limited memory which can extend to many aspects of the victims' lives: a "the hole in the mind" associated with avoidance of triggers which remind them of the abusive context.

Portraying her sexually traumatised victims, Cairns (1999) refers to avoidance of trigger stimuli, numbing of responsiveness and memory disturbance. She writes of the dissociation common in childhood sexual abuse victims:

"Try living for a while with a child who is not one person, but two, or three, or six people...In these different states they may call themselves

by different names, like different foods, dress differently, walk differently, and have entirely different sets of memories."

Increased arousal

Cairns (1999) goes on to give vivid descriptions of autonomic hyperarousal, poor concentration and hypervigilance:

"...a more or less permanent state of alertness to extreme threat...wary watchfulness, continuously scanning the adults around them for non-verbal signals of readiness to abuse, there is little wonder that traumatised children are often seen as inattentive or scatterbrained."

Bentovim (1991) describes irritability, anger, aggressiveness and sleep problems; distractibility and hyper-alertness; and a sense of anxiety or being easily startled. They can develop into a personality style of aggressive, counter-phobic responding, and identification with the aggressor. These symptoms are evidence of hyper-arousal and, together with those for re-experiencing and avoidance, fit with a diagnosis of PTSD.

The conditions of DSM-IV are met. Finkelhor's objections are not accepted. While only a proportion of child sexual abuse sufferers develop PTSD, the same is true of people suffering most traumatic events; and while most survivors of sexual abuse suffer a wider range of symptoms than PTSD, there is often co-morbidity with PTSD, whatever its cause.

What impacts the occurrence and severity of PTSD after sexual abuse?

Showing a child a single pornographic picture is sexual abuse, but PTSD would not be an expected consequence. Repeated rape of a young child, by different men, over a number of months, would be expected to lead to PTSD. The frequency and severity of the childhood sexual abuse are relevant to outcome.

Objective factors

Severity of traumatisation is influenced by both subjective and objective factors. The latter include the scale and frequency of the event. Studies with combat veterans have found prevalence of disorder depends on the nature and intensity of the experience. (Helzer et al, 1987; Foy et al, 1987) Studies have also demonstrated an exposure-response relationship in explosions, shootings, nuclear leaks and earthquakes. (Bromet et al, 1982a; Goenjian, 1993; Pynoos & Nader, 1988; Realmuto et al, 1991; Weisaeth, 1983)

Lund et al (1984) suggested stress may build cumulatively through exposure to a traumatic event, validating this with a Guttman scaling technique. Joseph, Williams & Yule (1997) report that repeated and prolonged exposure may be most harmful.

The points above relate to PTSD from all causes. The general principle applies to the specific: duration and frequency of child sexual abuse have been shown to be associated with PTSD diagnostic status (Rowan, Foy, Rodriguez & Ryan, 1993), and van der Kolk's field trials for DSM-IV found severity was proportional to age of onset of the trauma and its duration. (van der Kolk et al, 1993)

Subjective factors

The severity of traumatisation is also influenced by (a) prior personality or life history of the victim, and (b) social context and support available after the event. (Joseph, Williams & Yule, 1997)

(a) Prior personality or life history

Elder and Caspi (1990) suggest one factor at play in the development of an individual's experiences in life is the Accentuation Principle. This states that

adaptive responses are partly shaped by the resources, coping styles and strategies people bring to the newly changed situation. The accentuation principle refers to the increasing emphasis of already prominent characteristics during social transitions in the life course.

Caprara and Rutter (1995) focus on the impact adverse early life experiences have on vulnerability. They found that almost all psychosocial adversities tend to have their greatest impact on those who are already psychologically vulnerable; moreover, their effect is to increase or accentuate those pre-existing predispositions or characteristics.

Caprara and Rutter state that single stressful experiences carry low psychosocial risks. (Rutter, 1979) Serious risks tend to derive from a combination of adversities or from adversities over time. An example is Resnick et al's (1995) finding that rape victims with a prior history of sexual abuse were significantly more likely to have developed PTSD 3 months after the rape.

Sexually abused children who have also been physically abused, and children who have suffered any abuse early in life, will therefore be most susceptible to more extreme damage from sexual abuse. Bearing in mind Perry's CAT scans, and longitudinal work such as the Dunedin Study (Caspi et al, 1996), which showed that future 'at risk' adults could be identified by age 3, many sexually abused children have little in the way of inner resources on which to draw. One investigation reflecting this studied the 15% highest scores on a measure of dissociative experiences in an analysis of 111 consecutive state hospital admissions. 100% of these patients reported a history of sexual abuse; 86% also had histories of physical abuse; 79% had witnessed domestic violence. (Saxe et al, 1993, 1994) 100% met diagnostic criteria for PTSD.

(b) Support available after the event

Studies reviewing factors which protect children from the worst effects of abuse identify, inter alia: emotional support from a non-abusive adult (Egeland, Jacobvitz and Sroufe, 1988); low family conflict (Kurdek & Sinclair, 1988); close affectional ties to family members (Browne & Saqi, 1987; Garmezy, 1991); and a good relationship with one parent. (Hunter and Kilstrom, 1979; Jenkins and Smith, 1990) The availability (or not) of these forms of family support is a significant mediating factor which may help explain variations in outcome following childhood sexual abuse.

Conclusion

PTSD is a common consequence of childhood sexual abuse, and can be very profound. It tends to occur more when the abuse is frequent, or of long duration, or severe, and especially so when all three occur. It will be a more frequent consequence when the victim has few personal resources to draw on in coping with adversity (as in children with a history of abuse in their early years), and when there is a lack of affection in the family, and/or no support from a non-abusing adult. Many childhood sexual abuse victims face a combination of poor pre- and post-trauma contextual factors and severe abuse. Such evidence as we have suggests that while, for those more seriously affected the consequences are often dire, only some 20-25% of childhood sexual abuse sufferers reach the level of severity required to produce PTSD.

3. There are demonstrated, effective, methodologies for treating PTSD.

There are proven Cognitive-Behavioural techniques for treatment of PTSD, whose success with combat veterans and rape victims have been demonstrated. With the combat veterans where aggression and violence have been a major problem, often leading to incarceration, treatment of PTSD has significantly reduced violent behaviour.

One of these Cognitive-Behavioural PTSD treatment methods, Prolonged Exposure Therapy, has been used by WAVE within its "An End to Violence" Programme.

Prolonged Exposure Therapy (PET)

It has been mentioned in the section describing PTSD that memory storage during trauma is accompanied by extreme levels of psychological and physiological arousal, and important elements of the memory, necessary for completion, can only be accessed efficiently when in a similar affective state. ^(Keane, 1976; Weingartner et al, 1977) Prolonged Exposure Therapy (PET) is a means to access this emotionally laden, but normally inaccessible, memory.

Traumatised individuals become conditioned to respond aversively to a wide range of stimuli associated with the trauma source. ^(Keane, 1985) Cairns (1999) describes sights (a black beard); sounds (heavy breathing); smells (disinfectant); touch (on the shoulder); taste or texture (soft boiled eggs), and situations (hearing adults arguing).

In classical conditioning, if there is repeated exposure to conditioned aversive stimuli when these are not paired with their related unconditioned stimulus (e.g. a trauma) the anxiety level eventually drops: this is called "extinction".

In PTSD, despite frequent reliving of the event, extinction does not occur; rather, individuals with chronic PTSD may become increasingly disturbed over time. The memories are so aversive and anxiety provoking that the whole memory is deliberately not recalled and processed. ^(Keane, 1985)

Prolonged Exposure Therapy (PET) combines flooding and systematic desensitisation techniques. The goal is to expose the client to the conditioned fear stimuli using imaginal techniques, which recreate the emotional as well as the cognitive states of the traumatic memory, thus enabling desensitisation.

Rothbaum and Foa (1996), quoting Foa and Riggs (1993), suggest that because PET brings about a decrease in anxiety associated with a traumatic memory, it permits a re-evaluation of the meaning. Rothbaum and Foa cite DiSavino et al's (1993) study analysing victims' narratives of trauma during exposure. Expressions of disorganisation decreased from first to last exposure.

PET Method and Effectiveness: Literature Review

Despite its long history, there are few studies of PET's effectiveness, and even recent reviews of PET ^(Foa & Rothbaum, 1998; van der Kolk, McFarlane & van der Hart, 1996; Weaver, Chard and Resick, 1998) rely heavily on the Vietnam veteran studies by Keane et al (1982, 1989) and the rape studies by Foa et al (1991, 1995).

Keane et al's (1982, 1989) method was repeated imaginal presentation of the traumatic event in a supportive clinical relationship, with the goals of reduced anxiety and elimination of avoidance of the traumatic memories. In the PET component ^(Keane et al, 1985) the therapist sets the scene, then invites the patient to imagine the traumatic situation, including sounds, sights, smells, feelings etc, using cues to elicit appropriate memories. Patient feedback of Subjective Units of Distress (SUDs) are provided; PET continuing, typically for 45 minutes, until feedback indicates anxiety has decreased to a low level.

Foa et al (1995) stress the importance of the client re-experiencing the emotions felt at the time of the assault. This advice is repeated in Kimble, Riggs and Keane (1998). Foa et al (1991) had their rape victims relive the assault by imagining it as vividly as possible and describing it aloud using the present tense, for 60 minutes per session. Narratives were tape-recorded and the patient instructed to listen to the tape at least once daily as homework. Foa et al also used in-vivo exposure to feared situations.

Keane et al (1989) found that PET led to improvements in anxiety, depression and re-experiencing symptoms, but not in numbing or social avoidance. Foa et al's (1991) experiments showed PET as an effective treatment, especially at 4-month follow-up, reducing all of intrusion, avoidance and arousal.

The review by van der Kolk, McFarlane & van der Hart (1996) speaks very positively about the results from exposure approaches. In addition to the Keane and Foa studies, positive results are cited from combat veteran studies by Peniston (1986); Cooper and Clum (1989), who found reductions in sleep disturbance and anxiety, but not depression; and by Boudewyns et al (1990), who found significant improvement at 3-month follow-up. Positive results were found in studies with children by Blake (1993).

Weaver, Chard and Resick (1998) refer to a pilot study on using PET with adult survivors of incest which had great initial success. (Dancu, Foa & Smucker, 1993)

Foa & Rothbaum's (1998) evaluation of effective treatments of PTSD describes two studies which combined imaginal and in vivo exposure treatments, with good results. Richard, Lovell & Marks (1994) conducted four sessions of each. This combined approach produced high levels of symptom reduction (65-80%). At post-treatment and 1-year follow-up no patients met criteria for PTSD. Thompson et al's (1995) patients also improved on a range of measures including 61% on GHQ (General Health Questionnaire) and 42% on the IES (Impact of Events Scale).

4. Including effective methods of treating PTSD has a beneficial impact on outcomes with violent offenders.

My experience is that Prolonged Exposure Therapy is extremely effective, when used in conjunction with cognitive restructuring (see below). Typically, I conduct 6 PET sessions, each lasting approximately 30 minutes, within a 20-session "An End to Violence" programme to stop re-offending and minimise future violent behaviour. My methodology differs from those described by Keane and Foa, focusing on experiencing the somatic and emotional components of the traumatic memory, without the verbal component. The intensity of the aversive emotion is deliberately elevated, using SUD ratings, to the highest levels the client can bear, with the client always staying in control of the chosen SUD level.

Typical emotions addressed in these PET sessions include depression, anger, rage, loneliness, fear. Though very unpleasant to experience, clients report remarkable positive changes in affect and general mood in the weeks following. To date these changes have been sustained.

I worked with most of my traumatised clients (violent criminals) prior to recognising the importance of formal diagnosis of PTSD, as opposed to "trauma sufferer". (Remarkably, PTSD was never mentioned in my Criminology training.) My initial psychometric measures were therefore anger and aggression related, not recognised PTSD measures. Nonetheless, measures for clients who had suffered childhood physical or sexual abuse showed striking changes in elements likely to be trauma-related. Aggregate scores for 6 clients improved as follows:

Hostility reduced by 61.4%
Anger Arousal reduced by 65.6%
Aggression reduced by 73.1%
Social avoidance reduced by 77.3% (issue for 2 clients only)

On average these improvements have been maintained at various follow-ups (6 months, 1 year, 2 year), except for one client who showed some reduction in benefit. Subsequent work with violent inmates using formal evaluation of PTSD symptoms led to diagnosis of PTSD before treatment and disappearance of the symptoms after treatment.

The events assessed in the IES were childhood physical abuse. These initially scored 33 on the IES scale (27 indicating ongoing traumatic stress), with 21 for the intrusion sub-set (intrusive thoughts, waves of strong feelings, reminders) and 12 for avoidance (trying to avoid memories, thoughts, reminders). At an intermediate point in treatment the intrusion scores had fallen from 21 to 2 and avoidance from 12 to 0. These gains were sustained at the end of treatment, and 1-year follow-up.

Again, hostility, anger and aggression were markedly reduced. During 4 further years in prison, an inmate with a history of prison violence had no further episodes of violent behaviour.

These psychometric results bear out both client report and my own assessment of the results of treatment. Further, they follow on from many years of successful experience of using PET to modulate strong negative emotions in non-traumatised clients. First-hand experience of such consistently positive results leaves me with a firmly positive view on the efficacy of the treatment.

Van der Kolk et al (1996) conclude: *"treatment outcome research strongly supports the idea that exposure to memories of the trauma is an essential element of effective treatment of PTSD."*

Additional Treatment Needs: Cognitive Restructuring

As a result of trauma, an individual's construct of self and the world can change dramatically. (Janoff-Bulman, 1985) I have been using PET since the mid 1980s, and on PTSD victims since the late 1990s. It is my experience that, for optimum effective therapy, PET needs to be combined with a cognitive restructuring process. Removing from the victim's life the overwhelming domination of dealing with traumatic stress leaves a vacuum. It is important that this vacuum is filled positively, in a manner which gives the former victims a sense of real control over their lives.

Often the views of people who have been the victims of assault become very negative and pessimistic, and there is a need to correct the mistaken beliefs they have. (Foa & Rothbaum, 1998)

Cairns (1999) says *"victims of post-traumatic stress disorder need to be actively involved in their own recovery, to be able to create meaningful symbols for the reinvention of meaning...Victims need help to challenge these [PTSD-related] cognitive constructs and to develop new schemes which take account of the changed reality but also allow for a full and satisfying life to be lived"*.

Van der Kolk et al (1996) comment that the everyday existence of many people with PTSD is dominated by trauma-related conceptions of themselves and the world, activated by stress. Van der Kolk et al (1996) find these issues often inadequately assessed in PTSD treatment, and recommend that effective psychotherapy needs to alter the way victims view themselves and their world by addressing *"how the trauma has affected people's sense of self-efficacy, their capacity for trust and intimacy, their ability to negotiate their personal needs, and their ability to feel empathy for other people"*. (McCann & Pearlman, 1990; Herman, 1992)

Keane et al (1985) describe the importance of cognitive restructuring in their alternative to PET, stress management, but do not appear to use it with flooding. This may contribute to the relatively weak effects they achieved.

Foa and Rothbaum (1998) suggest PET alone may be efficacious with clients with uncomplicated PTSD, mainly anxiety and avoidance. For clients who also have guilt, shame or debilitating anger, they recommend PET plus cognitive restructuring. Foa and Rothbaum describe the purpose of cognitive restructuring as being able to reduce negative thoughts, and to teach the client to develop more realistic, new, coping beliefs. They emphasise its emotional purpose, relating it to the cognitive theory that emotions are produced by the interpretation of events, rather than by the events themselves.

My approach takes this a step further, driven by long counselling experience, that not only emotional experiences, but also results produced are shaped by the cognitive constructs with which one meets the world. Foa and Rothbaum (1998) describe this in relation to sense of control, and the insight gives rise to Henry Ford's famous dictum: *"If you think you can, you can; if you think you can't, you can't."* My purpose is to ensure those recovering from PTSD "think they can", and create positive outcomes.

Additional Treatment Needs: Client/Therapist relationship

Van der Kolk et al (1996) state that the therapeutic relationship with PTSD patients tends to be extraordinarily complex, with interpersonal aspects of the trauma, such as mistrust, betrayal, dependency, love and hate being replayed. They emphasise that the patient must be able to confront the traumatic memory with a trusted therapist in a safe environment. This is an indispensable element in learning to regulate emotional arousal.

Keane et al (1985) also highlight the crucial nature in PET of the development of a strong and positive patient-therapist relationship, which can serve as a model to the patient of future satisfactory interpersonal relationships.

Within this relationship, there is need for great sensitivity in judging the client's ability to handle extremes of negative emotion. McFarlane (1994) emphasises the importance of a constant reassessment of the patients' capacity to face their emotions to prevent high dropout rates and therapeutic failure.

Rothbaum and Foa (1996) identify a number of other important elements, such as expressing confidence in the ability to handle whatever comes up for the client; not completing the session immediately after imaginal exposure; and ability of the therapist to convey that short-term suffering will lead to long-term benefit.

WAVE's approach is showing very positive results with both prisoners and ex-prisoners. For a group of 5 persons who have been through this process, levels of violence and aggression dropped sharply as measured on the following scales:

- Buss-Durkee Hostility Scale: -70% (sustained at 6-month follow-up)
- Novaco Cognitive Anger Scale: -66% (sustained at 6-month follow-up)
- Novaco Anger Arousal Scale: -82% (sustained at 6-month follow-up)
- Novaco Anger Behaviour Scale: -89% (-82% at 6-month follow-up)
- Novaco Anger Triggers Scale: -70% (-63% at 6-month follow-up)
- Spielberger State-Trait Anger Scale: -66% (sustained at 6-month follow-up)
- Rotter's Locus of Control Scale: 48% shift towards "Internal" (taking more responsibility) sustained at 6-month follow up.

There were also improvements, sometimes very striking, in Fear of Negative Evaluation and Social Avoidance, which can impede re-integration into the community.

By September 2003 the WAVE PTSD clients who had been released from prison (all but one) had completed nearly 15.6 man-years in the community without a single recorded incident of violent re-offending (as measured by personal reports and police records). Only one had offended at all - a minor offence for which he was admonished.

One PTSD client was still in prison. Though at the time of his entry into the "End to Violence" Programme he had a troublesome history of prison violence against both other inmates and staff, by September 2003 he had completed 33 violence-free months in prison.

For a full report on WAVE's "An End to Violence" Programme, see separate section in this web site.

WAVE is seeking to establish whether, in the UK prison system, current therapeutic approaches to address re-offending by violent prisoners or ex-prisoners largely ignore the dimension of PTSD.

The correlation between PTSD and violent behaviour has major implications for treatment of offenders and ex-offenders. If PTSD is not treated the likelihood of a recurrence of violent behaviour is much higher than if the PTSD were treated.

Current UK prison programmes such as the Sex Offenders' Treatment Programme (STOP) and the Cognitive Self-Change Programme have a very positive impact on many of the inmates and ex-offenders going through them. However, from both personal experience with prisoners and ex-prisoners who have been through these programmes, and from knowledge of their content, they do not effectively address PTSD. Someone entering these programmes suffering from PTSD is very likely to exit with PTSD. Most people I have spoken with, involved in administering these programmes, have no awareness of the dimension of PTSD.

I have also found, in a small sample of prisons, that senior probation, psychology and operations staff seem as unaware of the relevance of PTSD to violent behaviour as I was after completing my training in Clinical Criminology. (Interestingly, there was in some prisons an awareness of the existence of PTSD in prison officers exposed to trauma such as prisoner suicide.) WAVE is now seeking to establish whether this is a general picture within the UK prison system, or whether my experiences have been untypical.