

POST-TRAUMATIC STRESS DISORDER

Grant J. Devilly (Swinburne University of Technology) & Jennifer McGrail (University of Melbourne)

DSM-IV Criteria for PTSD

Information detailing the effects of traumatic experiences and the concept of trauma-related emotional disturbance has a long history. The current conception of PTSD is reflected in the DSM-IV-TR (APA, 2000) definition. This stipulates that a 'traumatic event' must meet two conditions: that (i) the person must have experienced or witnessed a physically-threatening event and (ii) responded to that event with a sense of fear, helplessness or horror.

The diagnosis of PTSD (DSM-IV) includes six criteria (see Table 1). The first criterion (Criterion A) is the qualifying trauma. Criterion B relates to re-experiencing the trauma (i.e. intrusive memories, nightmares and distress on exposure to reminders). Criterion C refers to two types of avoidance; *active* avoidance (i.e., effortful avoidance of reminders of the trauma) and *passive* avoidance (i.e., a non-effortful numbing of general responsiveness). Criterion D refers to symptoms of hyperarousal such as difficulties sleeping, hypervigilance and irritability. The symptoms in B, C and D must be present for a least one-month before a diagnosis can be made, with the duration criterion (E) specifying how long the symptoms have persisted. Finally the F criterion, which relates to functional significance, specifies that the individual must experience significant social, occupational, or other distress as a result of these symptoms.

Table 1: Summary of PTSD Diagnostic Criteria from DSM-IV-TR (APA, 2000)

Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) Criteria for PTSD
<p>A. <i>The person has been exposed to a traumatic event in which both of the following were present:</i></p> <p>(1) The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others</p> <p>(2) The person's response involved intense fear, helplessness, or horror</p> <p>NOTE: In children, this may be expressed instead by disorganised or agitated behaviour.</p>
<p>B. <i>The traumatic event is persistently re-experienced in one (or more) of the following ways</i></p> <p>(1) Recurrent and intrusive distressing recollections of the event, including images, thoughts or perceptions</p> <p>NOTE: In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.</p> <p>(2) Recurrent distressing dreams of the event</p> <p>NOTE: In children, there may be frightening dreams without recognisable content</p> <p>(3) Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated)</p> <p>NOTE: In young children, trauma-specific re-enactment may occur</p> <p>(4) Intense psychological distress at exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event</p> <p>(5) Physiological reactivity on exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event</p>

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

- (1) Efforts to avoid thoughts, feelings, or conversations associated with the trauma
- (2) Efforts to avoid activities, places, or people that arouse recollections of the trauma
- (3) Inability to recall an important aspect of the trauma
- (4) Markedly diminished interest or participation in significant activities
- (5) Feelings of detachment or estrangement from others
- (6) Restricted range of affect (e.g., unable to have loving feelings)
- (7) Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

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

- (1) Difficulty falling or staying asleep
- (2) Irritability or outbursts of anger
- (3) Difficulty concentrating
- (4) Hypervigilance
- (5) Exaggerated startle response

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

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

SPECIFY IF:

Acute: if duration of symptoms is less than three months

Chronic: if duration of symptoms is three months or more

SPECIFY IF:

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

The course of PTSD varies between people and the DSM-IV includes specifiers about the course of the disorder. An *acute* case is when the duration of symptoms is less than three months. A *chronic* case lasts three months or longer. *Delayed onset* of PTSD is diagnosed when at least six months have elapsed between the traumatic exposure and onset of symptoms (Schnurr, Friedman, & Bernardy, 2002).

The Theory of the Development of PTSD

Case Example – Paul

Paul is 42-years-old, has been married for fifteen years and has three children. Twelve months ago Paul was involved in a car accident. He was a passenger in a vehicle that was being driven by his close friend David. They had been on a fishing trip in the country and were returning home when a driver of another vehicle, who was intoxicated, swerved onto the wrong side of the road and hit Paul and David's car. Paul and David escaped serious injury but the driver of the other vehicle was killed.

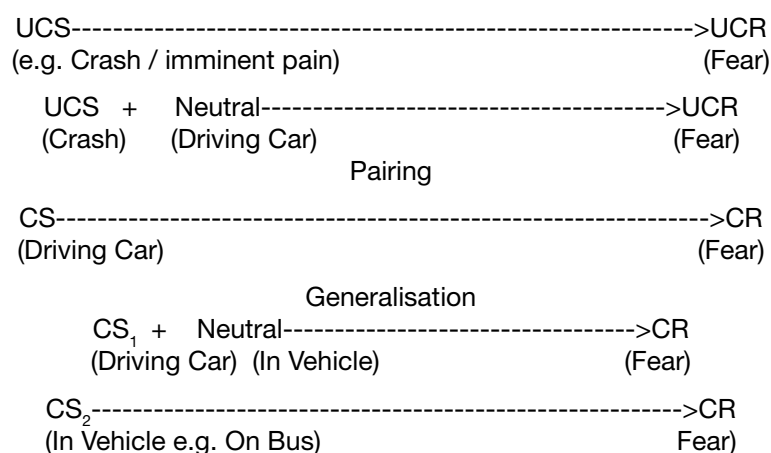
Paul explains that since the accident he has 'not been himself'. More specifically, he reports having poor concentration, irritability and agitation. Also, he feels 'disconnected' from his family and close friends. Paul describes having poor sleep in that he finds it difficult to fall asleep and once asleep he will wake up frequently throughout the night after having distressing dreams involving car accidents. Paul has had minimal contact with David since the accident because when he sees his friend he is reminded of the collision and finds this very upsetting. Paul has not driven since the accident and avoids travelling as a passenger in a car, preferring to walk or ride his push-bike. He becomes anxious if he travels on public

transport and also avoids this. He reports that he feels more 'jumpy and shaky' and is easily startled, for instance, when the telephone rings. When in situations that he finds uncomfortable Paul leaves immediately, stating that this makes him feel calmer and safe.

A number of theoretical models can explain the development and maintenance of Paul's symptoms following his car accident (traumatic event). This includes Mowrer's (1960) two-stage learning theory, emotional processing theory (Foa & Kozak, 1986) and Ehlers and Clark's (2000) cognitive model of post traumatic stress disorder.

The first stage of Mowrer's (1960) model involves Pavlovian pairing of a neutral stimulus with an aversive stimulus that causes anxiety and discomfort (see Figure 1). During this first stage, the previously neutral stimulus (e.g., a word, image, thought, situation or object) becomes associated with an unconditioned stimulus (UCS) and begins to elicit anxiety (leading to the neutral stimulus now becoming a conditioned stimulus). Through a process of stimulus generalisation, the number of conditioned stimuli (CS) can then be increased: stimuli that are similar to the original conditioned stimuli also gain anxiety-eliciting properties.

This model can be applied to the development of Paul's PTSD symptoms. The car accident and associated helplessness experienced by Paul, the pain and threat of physical harm and death that he experienced are the unconditioned stimuli (UCS) that evoke unconditioned responses (UCR) of fear and anxiety. Through pairing with the UCS, neutral stimuli that are associated with the accident, such as his friend David and driving a car, become conditioned stimuli and subsequently produce a conditioned response (CR) characterised by fear and anxiety. Classical conditioning also suggests that fear and anxiety responses can generalise to other stimuli with similar properties to the conditioned stimuli. For Paul, the anxiety response elicited by the stimulus of the accident has generalised to other modes of transport, such as travelling on a bus or train.



Note: CS₁ = originally conditioned stimulus; CS₂ = generalised conditioned stimulus

Figure 1: Mowrer's (1960) two-factor theory: Stage one classical conditioning as applied to the development of a post-car accident fear.

In the second stage (see Figure 2), Mowrer (1960) proposed that the presence of anxiety increases the probability of avoidance and escape behaviours (e.g., if one is anxious about seeing a spider at the end of the garden, one avoids going to the end of the garden). These behaviours become strengthened through the negative reinforcement produced by immediate reduction in anxiety following avoidance (Foa, Steketee, & Rothbaum, 1989). Thus, Paul started to avoid all stimuli and situations that remind him of the accident (e.g., travelling in a vehicle). This avoidance response was then negatively reinforced by a reduction in anxiety as a result of this avoidance behaviour. Through this mechanism the avoidance behaviour becomes resistant to extinction through a reinforcement trap and so must be actively targeted during treatment to produce a reduction in the fear response.

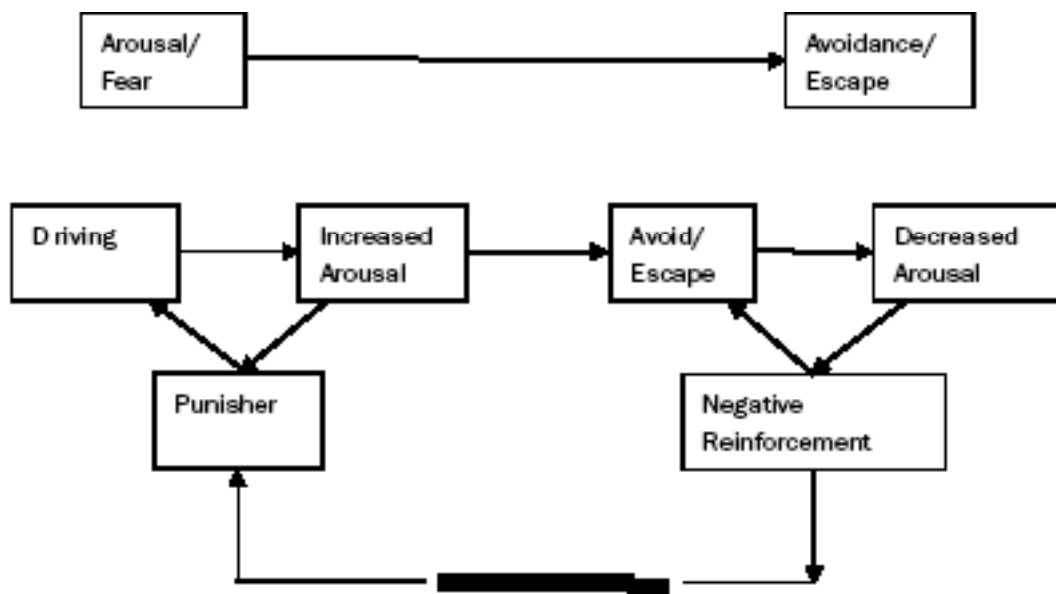


Figure 2: Mowrer's (1960) two-factor theory: Stage two operant conditioning as applied to the development of a post-car accident fear.

Emotional Processing of Fear

Foa and Kozac (1986) proposed that, rather than a unitary construct, the fear response associated with PTSD is best seen as a 'fear structure' or network. This network contains three types of information; (1) feared stimulus situations, (2) verbal, physiological and overt behavioural responses and (3) interpretive information about the meaning of the stimulus and response elements of the structure. They proposed that memory structures (networks) serve as blueprints for fear and behaviour and that the traumatic event leads to a representation in memory that is different from one created by an everyday experience. In essence, they argued that PTSD sufferers differ from people with, say, a specific phobia in that their sense of a safe world has been violated during the trauma and their responses to associated stimuli are heightened (intensity of fear structure; e.g., increased heart rate). This change in safety leads to the inclusion of many stimuli (size of structure; e.g., public transport), and the threshold for fear activation is low (accessibility of structure; e.g., easily startled). Foa and Kozac proposed that to alter this fear structure incompatible new evidence that is both cognitive and affective must be incorporated into the structure so that a new memory can be formed. Once this new information has been integrated into the old experience, through exposure that accesses both cognitive and affective modalities, a change in emotion

attached to the event and associated stimuli can occur. From this perspective, activating and modifying the fear structure is critical to the treatment of PTSD sufferers with exposure therapy.

Ehlers and Clark's Cognitive Model

Ehlers and Clark (2000) recently proposed a cognitive theory for PTSD. The model draws on earlier Cognitive Behavioural Therapy (CBT) models and evidence from experimental research. Under this model, two mechanisms are identified as part of the development of PTSD: (1) *negative appraisals of the trauma and its sequelae*; and (2) *the nature of the trauma memory*.

Negative appraisals during the event are said to influence the processing of trauma information and create a sense of serious current threat. These include appraisals about danger and violation of standards by self or others. Thought processes during the trauma and prior beliefs and experiences increase the likelihood of negative appraisals. Negative appraisals can be external (e.g., the world is a more dangerous place) or internal (e.g., a threat to one's view of oneself as a capable person). These different types of appraisals explain the variety of emotions reported by patients with PTSD.

As part of the model, Ehlers and Clark (2000) attempted to explain the *nature of trauma memories*. They noted that there are seemingly opposing processes in PTSD patients: they often have difficulty intentionally retrieving a complete memory of the event, yet they report a high frequency of involuntary intrusive memories. This is conceptualised as resulting from the way the trauma is encoded in memory; there is poor elaboration and incorporation of the event into memory. Three problems with memory are identified. First, consistent with conditioning theory, associations are particularly strong for traumatic material, resulting in the person making (often preconscious) predictions about future sources of danger. Second, retrieval from associative memory is cue-driven and unintentional such that the individual is not always aware of the triggers for re-experiencing or that emotional reactions are the result of activation of trauma memory. Third, there is particularly strong perceptual priming for stimuli that are temporally associated with the traumatic event.

According to Ehlers and Clark (2000), there is a reciprocal relationship between the *nature of the trauma memory* and the *appraisals of the trauma*. When individuals with persistent PTSD recall the traumatic event, their recall is biased by their appraisals and they selectively retrieve information that is consistent with these appraisals. For example, Paul thinks that his reaction to the car accident means that he cannot cope with stress and, therefore, he will recall that he was upset at the time of the collision. Paul will not remember that he helped others or that he called for assistance. This selective retrieval prevents him from remembering aspects of the event that contradict his appraisals and prevents appraisal change (Ehlers & Clark, 2000; Forbes, Creamer, Hawthorne, Allen, & McHugh, 2003).

In summary, PTSD is said to persist if an individual processes a traumatic event in a way that produces a sense of current threat. Once activated, the perception of current threat is accompanied by intrusions, re-experiencing, arousal, anxiety symptoms and other emotional responses. The perceived threat also motivates a series of behavioural and cognitive responses (e.g., avoidance). While these responses are intended to reduce the perceived threat and distress, they prevent cognitive change and subsequently maintain the disorder (Dunmore, Clark, & Ehlers, 1999; Ehlers & Clark, 2000). As such, treatment for PTSD should aim to modify excessive negative appraisals, correct the autobiographical memory disturbance and remove the problematic behavioural and cognitive strategies. Ehlers, Clark, Hackman, McManus, and Fennel (2005) argue that this can be achieved using exposure and cognitive therapy.

Discussion Questions

1. What aspects of PTSD as defined by the DSM-IV are not explained by Mowrer's (1960) two-factor theory?
2. What aspects of PTSD as defined by the DSM-IV are not explained by Foa and Kozak's (1986) emotional processing theory?
3. What questions would you ask a client in order to assess whether they have PTSD?
4. How easy would it be to rote-learn the criteria for PTSD and fake them in a court case?

References

- American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorder* (4th ed.). Washington, DC: American Psychiatric Association.
- Dunmore, E., Clark, D.M., & Ehlers, A. (1999). Cognitive factors involved in the onset and maintenance of posttraumatic stress disorder (PTSD) after physical or sexual assault. *Behaviour Research and Therapy*, 37(9), 809–829.
- Ehlers, A., & Clark, D.M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319–345.
- Ehlers, A., Clark, D.M., Hackman, A., McManus, F., & Fennel, M. (2005). Cognitive therapy for post-traumatic stress disorder: development and evaluation. *Behaviour Research and Therapy*, 43(4), 413–431.
- Foa, E.B., & Kozak, M.J. (1986). Emotional processing of fear: exposure to corrective information. *Psychological Bulletin*, 99(1), 20–35.
- Foa, E.B., Steketee, G., & Rothbaum, B.O. (1989). Behavioral/cognitive conceptualisations of post-traumatic stress disorder. *Behavior Therapy*, 20, 155–176.
- Forbes, D., Creamer, M., Hawthorne, G., Allen, N., & McHugh, T. (2003). Comorbidity as a predictor of symptom change after treatment in combat-related posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, 191(2), 93–99.
- Mowrer, O.H. (1960). *Learning theory and behavior* (Vol. xiv). Oxford, England: Wiley.
- Schnurr, P.P., Friedman, M.J., & Bernardy, N.C. (2002). Research on posttraumatic stress disorder: epidemiology, pathophysiology and assessment. *Journal of Clinical Psychology*, 58(8), 877–889.