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APPLIED ASPECTS OF TRAUMA ASSESSMENT: INDIVIDUAL PSYCHOMETRIC ASSESSMENT, A CRITICAL ANDRAGOGIC APPROACH TO TRAINING IN CRITICAL INCIDENT DEBRIEFING, AND A REVIEW OF THE ASSESSMENT OF FAMILIES AND CHILDREN FOLLOWING POTENTIALLY TRAUMATIC EVENTS.

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Submitted in fulfilment of the requirements for the DPsych degree

City University
Department of Psychology
London

January 2000

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Martin Fine

DECLARATION

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Martin Fine

ABSTRACT

The research component of this thesis addresses the quantitative assessment of post-traumatic stress disorder (PTSD) in adults. Theoretical formulations of PTSD and commonly used instruments for assessing trauma in adults are reviewed and followed by three psychometric studies. In the first study norms for the Impact of Event Scale (IES; Horowitz et al., 1979) are reported for patients referred for counselling in NHS primary care settings. The second study reports norms for the Impact of Event Scale Revised (IES-R; Weiss & Marmar, 1997) in a similar patient group. The third study reports on the development of a new instrument for assessing occupational distress, the Distress at Work Scale (DAWS), and suggests that the instrument may be of use in assessing occupational impairment following exposure to a traumatic event.

The teaching case study addresses the training of counsellors and counselling psychologists in the theory and practice of a critical incident debriefing procedure within an Employee Assistance Programme context. The underlying andragogic methodology is presented, and issues arising from presenting the teaching material from a critical perspective are discussed.

The literature review differs from the research component by examining the impact of trauma from a systemic rather than individual perspective. Research findings on the effects of marital subsystems and possible transgenerational effects of trauma are presented, and the assessment of the effects of PTSD on family relationships and children is reviewed.

SECTION A: GENERAL INTRODUCTION

SECTION A: GENERAL INTRODUCTION

1. Overview

The unifying theme to this submission is the assessment of trauma with an emphasis predominantly on applied psychology in primary health care and occupational health settings. The research component (Section B) addresses normative considerations relating to the use of two existing assessment instruments for the assessment of trauma in individual adults and the development of a third for the assessment of occupational distress. The case study (Section C) addresses the training of counsellors in the context of their continuing professional development focusing on critical incident debriefing as both an intervention and assessment procedure. The review (Section D) addresses the assessment of couples, families and children following trauma or a potentially traumatic event.

1.1 The research component

The empirical studies reported here were motivated by practical needs which arose in the assessment of trauma in the context of Employee Assistance Programme (EAP), National Health Service (NHS) primary care and medico-legal settings.

The over-riding construct behind this research is post-traumatic stress disorder (PTSD) as defined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; APA, 1994). The research focuses on four of the DSM-IV criteria and comprises three studies. The first study focuses on the determination of local norms for the Impact of Event Scale (IES; Horowitz et al., 1979) which is used for assessing the intrusion and avoidant components of the stress response syndrome originally proposed by Horowitz (1976). The second study addresses the Impact of Event Scale-Revised (IES-R; Weiss and Marmar, 1997) which constitutes an extension of the IES through the inclusion of an autonomic hyperarousal subscale as well as an additional item tapping intrusion. The third study focuses specifically on distress or impairment in occupational functioning, and reports the development of the Distress at Work Scale (DAWS). It is hoped that the DAWS will contribute to the assessment of PTSD as well as prove useful as an audit instrument in counselling contexts and medico-legal assessments where the client's subjective distress in the workplace is a salient feature of the presenting clinical problem.

1.2 The case study

The teaching case study addresses a short course in the training of counsellors and other mental health professionals in critical incident debriefing and is presented against an outline of andragogical principles.

The course was originally commissioned by a corporate EAP provider wishing to ensure quality standards in the provision of debriefings by offering their affiliate counsellors the necessary training for the effective conduct of critical incident debriefing.

Because of issues relating to the efficacy of critical incident debriefing as well as the diverse academic and training backgrounds of the trainees, the course presented a number of challenges for the trainer. To meet these challenges, it was necessary to adopt an approach to training which respected the participants' autonomy and professional life experiences. For this reason the overriding approach to the training was predominantly andragogical rather than pedagogical. A theoretically grounded approach was used in the delivery of the course, and participants were encouraged to decide for themselves whether or not to take on debriefing assignments in the light of the evidence presented.

The course also addressed issues of assessment in that the critical incident debriefing was presented as an assessment and screening procedure rather than as a therapeutic intervention.

1.3 The literature review

Like the other components, the review is linked to the common theme of the assessment of trauma. However, the review differs from the other components by focusing on the assessment of traumatic sequelae in couples and family units and, in so doing, also addresses the assessment of children. This review was driven by the need to select appropriate assessment techniques which would have clinical relevance and be practical in their application.

1.4 Personal statement

This portfolio reflects my academic and professional background as a chartered teaching psychologist and trainer and as a chartered counselling psychologist.

Having spent four years as the senior Course Tutor on the MSc in Counselling Psychology at the University of East London, I contributed significantly to the development of the course. My current practice includes working as a trauma therapist in both NHS Primary Care and private contexts, and I also work as a trainer and consultant in corporate and medico-legal contexts. I have trained UK, Bosnian and Sri Lankan mental health workers in the assessment and treatment of trauma.

The portfolio has been submitted in the hope that the material covered will prove of some use to counselling psychologists and other mental health professionals involved in the assessment of trauma and occupational distress.

SECTION B: RESEARCH

QUANTITATIVE ASSESSMENT OF INTRUSION, AVOIDANCE, HYPERAROUSAL AND OCCUPATIONAL DISTRESS FOLLOWING POTENTIALLY TRAUMATIC EVENTS: DETERMINATION OF LOCAL NORMS FOR THE IMPACT OF EVENT SCALE AND IMPACT OF EVENT SCALE-REVISED, AND DEVELOPMENT OF THE DISTRESS AT WORK SCALE

SECTION B RESEARCH

Quantitative assessment of intrusion, avoidance, hyperarousal and occupational distress following potentially traumatic events: Determination of local norms for the Impact of Event Scale and Impact of Event Scale-Revised, and development of the Distress at Work Scale

1 Introduction

The empirical work reported here was motivated by practical needs which arose in the assessment of trauma in the context of Employee Assistance Programme (EAP), National Health Service (NHS) primary care and medico-legal settings.

The unifying theme to this research is the quantitative assessment of post-traumatic stress disorder (PTSD) as defined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV,1994) which, in summary, specifies the following diagnostic criteria:

A. The threatening nature of the event and the evocation of fear, helplessness or horror in the individual.

B. The intrusive re-experiencing of the event by the individual.

C. The individual's avoidance of stimuli associated with the trauma and numbing of general responsiveness.

D. The experiencing by the individual of symptoms of increased arousal.

E. The duration of the disturbance of B, C and D above

F. Clinically significant distress or impairment in social, occupational or other areas of functioning.

This research focuses on four of the above DSM-IV criteria, viz., intrusive thoughts and images (B); avoidant behaviour (C); hyperarousal (D) and occupational functioning (a sub-component of F).

A number of instruments and interview protocols exist to assess PTSD and other sequelae of potentially traumatic events. One of the most commonly used is the Impact of Event Scale (IES; Horowitz et al., 1979) which measures only the intrusive and avoidant diagnostic criteria for PTSD. This scale was used by two South-London primary health care practices for three years to screen for PTSD in patients referred for counselling. However, because of its limitations both in terms of its focus and available normative data, there was a need for an instrument which was equally economical to use both in terms of expense and time but which also addressed other PTSD diagnostic criteria. The Impact of Event Scale-Revised (IES-R; Weiss and Marmar, 1997) was proposed as a replacement instrument as it had the advantage of

including a measure of hyperarousal. Like the IES, however, appropriate use of this instrument required suitable reference norms.

These practices concerned also adopted the Beck Anxiety Inventory (BAI; Beck & Steer, 1987) and the Beck Depression Inventory-II (BDI-II; Beck, Steer & Brown, 1987) as part of their pre-post intervention audit instruments as most of the patients referred for counselling interventions reported symptoms of anxiety and/or depression. However, many patients also presented with emotional difficulties directly associated with occupational functioning. There was, therefore, also a need for an easily administered instrument which would assess distress in the workplace and which would be sensitive to psychological and medical interventions. The need for such a scale also became apparent in discussions with two UK Employment Assistant Programme (EAP) providers whose corporate clients required quantitative assessments of their referred employees. Development of the Distress at Work Scale (DAWS) arose as a response to these needs.

The research presented here comprises three parts. The first of these reports on the determination of local norms for the IES and the second on the determination of local norms for the IES-R. The third part addresses development of the DAWS and links this instrument to the assessment of trauma. The intention is to produce an economical and easily administered assessment battery for use as an initial screening and clinical audit instrument by counsellors working in primary health and EAP settings.

Because assessment and diagnosis is more effective when it is guided by theory and research (Grotevant, 1989), the following section outlines some major theoretical approaches to trauma as a background to the assessment of trauma in adults.

1.1 An outline of relevant theoretical formulations

Psychodynamic formulations

From a psychoanalytic perspective, the term 'trauma' is used generically to refer to any totally unexpected experience which a person is unable to assimilate. The initial reaction to a psychological trauma is shock. Later effects are spontaneous recovery or the development of a 'traumatic neurosis'. A traumatic neurosis differs from other neuroses in that it has no unconscious meaning, and because of this, trauma-related dreams require no interpretation (Rycroft, 1972).

The term is also used to refer to an anxiety-evoking experience which the person masters by using defence mechanisms. According to this model, a traumatic event produces anxiety which is followed either by spontaneous recovery or by the development of a 'psychoneurosis' arising from conflicting personality structures such as ego and id.

For Freud all neurotic illnesses are the result of infantile trauma (Freud, 1940). Traumatic experience is viewed as a confrontation between the individual and an environment in which unbearable stimuli are encountered. The individual feels overwhelmed by not having appropriate coping strategies to deal with the situation. The resultant affective responses produce an unbearable psychic state which threatens the personality structure leading to a state of helplessness and, eventually, passivity (Baranger, Baranger & Mom, 1988). The disorganisation of defences and coping strategies leads to the disappearance of affective responses, apathy or depersonalisation.

The psychological damage of a traumatic experience is thought to be followed by a process of reparation which may be more or less successful. The nightmares and intrusive thoughts and images which characterize trauma are viewed as part of a reparative process in which the emotions occurring during the traumatic event become assimilated.

For Freud, the individual's defensive and potentially reparative attempts to recall the traumatic experience is inhibited by painful emotions which trigger other defence mechanisms such as denial and repression. This results in an inner conflict between the defences. On this view, the potentially reparative repetition-compulsion is a defence against an overwhelming feeling of passive powerlessness. The denial is a defence against the difficult emotions accompanying the re-experiencing becoming conscious. This inner conflict militates against assimilation of the traumatic experience.

Freud also noted that there were cognitive consequence of trauma. The person is confronted about aspects of human nature which were previously unknown. This knowledge is incompatible with the individual's former world-view and self-image and causes fear resulting in the repression of some memories of the experience.

Despite theoretical and empirical weaknesses in Freud's drive-structure model, his seminal conceptualization of trauma resulting from inadequate mental structures for coping with environmental events is central to contemporary cognitive theories of trauma.

Horowitz's (1976) theory of stress response syndromes is in the psychodynamic tradition. Horowitz suggests that there is a predictable pattern of response following a sudden serious life event. Initially, the individual experiences intrusive thoughts and images associated with the event. Because the affective components associated with these intrusions are painful, the individual is motivated to avoid reminders of the event or thinking or talking about the event. In the non-pathological pattern, the individual allows tolerable levels of trauma-relevant material into consciousness so that effective processing of the personal meanings of the event can progress.

According to this model, the observed pattern is one of oscillation between intrusive and avoidant states. As the implications of the event are worked through over time, the magnitude of these oscillations decreases over time, eventually leading to relative completion of the stress response. The 'stress response syndrome' is characterised by a prolonging or blocking of this pattern and individuals may be overwhelmed by the magnitude of their responses to the event. According to Horowitz & Kaltreider (1980), it is at this point that the person should be referred for psychotherapy.

Horowitz suggests that there are five phases of traumatic response. The first phase, 'Outcry', is the immediate response to the traumatic event. This includes panic and dissociative reactions. The second phase, 'Denial', is a period of numbing which includes maladaptive avoidance. The third phase, 'Oscillation', refers to the individual's oscillation between states of denial or numbing and intrusive thoughts and images relating to the event. In the fourth phase, 'Working through', the person faces the reality of the event. Here intrusive thoughts become more manageable, and there is a reduction in denial. The fifth phase, 'relative completion of response', includes permanent alterations in the individual's psyche.

Such stage models have not been empirically well supported. There is evidence that confronted with sudden loss, individuals are not always able to resolve this loss satisfactorily, and empirical research assessing affective states across time has tended not to support stage theories (Silver & Wortman, 1980; Wortman & Silver, 1987). This lack of support for a phase model suggests that it may be more accurate to plot the course of PTSD across multiple trajectories as Epstein (1990) has suggested. Following Horowitz's third stage of oscillation, responses may bifurcate into either adaptive or maladaptive response resolution. The concept of 'maladaptive *resolution*' allows for the idea that changes in personality, however dysfunctional, represent an attempt on the part of the individual to come to terms with the traumatising event. In doing so, people change their beliefs about themselves and the world in maladaptive ways which help them cope with stress.

Learning theory formulations

According to this approach, some of the consequences of exposure to a traumatic event such as intrusive thoughts, avoidant behaviour and increased physiological arousal are the result of learning processes. The essence of therapeutic intervention is to break the maladaptive and dysfunctional stimulus-response (S-R) and stimulus-stimulus (S-S) bonds which have been learnt.

According to two-factor theory (Mowrer, 1960), both classical and instrumental conditioning are involved in the acquisition of fear and avoidance behaviour. In the first stage, through a process of classical conditioning, a previously neutral stimulus which has been paired with an unconditional fear-eliciting

stimulus (UCS) takes on fear eliciting properties, thereby becoming a conditional stimulus (CS). The pairing of the CS with another neutral stimulus then leads to the latter also acquiring aversive properties and eliciting a fear response.

This process of high order conditioning, along with stimulus generalization, leads to a large number of objects, events, thoughts, words and images having the capacity to trigger anxiety responses. The second stage involves instrumental conditioning. Here the organism is reinforced for avoidance or escape responses through the reduction or termination of fear and discomfort.

A number of researchers have invoked two-factor theory to account for the symptoms of PTSD in, for example, war veterans (Keane, Zimmerling & Caddell, 1985) and rape victims (Becker et al., 1984; Kilpatrick et al., 1985).

Keane et al. have suggested that where the root event is a life-threatening situation, a number of previously neutral stimuli may take on fear invoking properties for the person. Through high-order (S-S) conditioning the person subsequently becomes fearful of stimuli which were not present at the time of the life-threatening event. Thus the person suffering from PTSD may have traumatic memories restimulated by events which to an observer have no obvious relationship to the root event. The typical re-experiencing of the event through flashbacks, thoughts and nightmares etc. is maintained through high levels of generalization and high-order conditioning.

One difficulty with this conceptualisation is that the concepts of generalization and high-order conditioning do not adequately account for the nightmares experienced by those with PTSD. A further difficulty is that a model grounded in behavioural theory would predict habituation to repeated presentation of an aversive stimulus. Yet, despite the repeated re-experiencing of the traumatic event by PTSD sufferers, symptomatology does not decrease (Keane et al., 1985). This may be because the avoidant responses of the individual attenuate the duration of the intrusive thoughts and images so that habituation cannot take place. This explanation is supported by research into flooding which shows that short exposures to aversive stimuli are less therapeutic than long ones (Stern & Marks, 1973; Chaplin & Levine, 1980).

Learning theory has also been used to formulate the genesis and maintenance of sexual difficulties in rape victims (Becker et al., 1984) and for rape victims' avoidance of therapy (Kilpatrick et al., 1985). Through classical conditioning, stimuli associated with the rape take on the status of CSs and come to elicit fear. Stimulus generalization and second-order conditioning operate to produce a wide range of aversive stimuli for the victim so that words and images associated with the rape elicit anxiety. Victims then

become distressed when confronted with sexual encounters as well as therapy which addresses sexual material.

When brought to bear on PTSD, two-factor theory has considerable explanatory power. It accounts for previously neutral cues taking on aversive properties, why victims avoid situations that are not objectively dangerous and why dysfunctional avoidance persists. However, it does not explain why PTSD sufferers avoid more cues than do phobics and agoraphobics.

S-S theory, to the extent that it invokes central representation, can overcome some of the limitations of traditional S-R learning theories. S-S theory can account for conditioning in the absence of the original CS. For example, it has been shown (Rescorla, 1974) that the impact of a CS which was originally paired with an aversive stimulus can be increased by exposure to a stronger aversive stimulus in the absence of the original CS. This would account for the manifestation of increased PTSD symptomatology in some victims when they receive new aversive information some time after the traumatic event.

In addition, it has been found (Sales, Baum & Shore, 1984; Kilpatrick et al., 1986) that perceived threat is a better predictor of the development of PTSD than actual threat. This calls for a formulation which goes beyond stimulus and response properties of an event and accommodates the meaning of the event for the individual.

Cognitive formulations

According to cognitive models of post-trauma reactions, an individual will encounter a potentially traumatic situation with pre-existing schemas which contain information about the person's experiences, beliefs, assumptions and expectancies of future events (Hollon & Kriss, 1984). People become traumatised by distressing incidents if they are confronted with information which is inconsistent with their existing schemas about their safety and invulnerability. The person's world-view may change and the self may be experienced as powerless.

There seems to be consensus amongst theorists that for trauma reduction to take place, there must be a successful integration of the trauma into a schematic representation that restores feelings of security (e.g. Horowitz, 1976; Foa et al., 1989; Chemtob et al., 1988). In order to function again properly, victims have to integrate their traumatic experiences into a revised world-view and self-image. Horowitz (1976) has argued that the processes of accommodation and assimilation are essential for recovery from trauma to occur. New information from the traumatic experience must be processed until it is assimilated into the existing cognitive framework, and preexisting schemas have to be modified in order to accommodate the new information.

However, for assimilation of threat-related information to take place, it is necessary for the person to be exposed to aversive stimuli, which, in turn, will result in increased arousal and motivation to avoid or escape such stimuli and trauma-related thoughts. The difficulty which the avoidance/escape tendencies present is that the traumatic event is then stored in active memory making it possible for elements of the event to continually trigger distressing and intrusive recollections.

The memory of the traumatic event interferes with other cognitive activities and both the physiological reactions and the memory of the traumatic event result in painful emotions such as disgust, aggression, and depression.

When a traumatic event has taken place, the representation of the event, the UCS, is linked to a complex network of trauma-related thoughts. This network contains causal attributions which affect self-image, world-view and voluntary action that could aid an escape from a repetition of the negative sensations accompanying the traumatic experience. The representation of the UCS also triggers self-instructions which will result in some overt responses, typically those which occurred during the traumatic event. These responses may, of course, be inappropriate later. Cognitive therapy can focus on changing the UCS representations through discussion, explanation and relabelling of emotions. For example, currently experienced fear may be relabelled as legitimate anger which has to be appropriately discharged.

An information processing formulation

Creamer, Burgess & Patterson (1992) have synthesised the above formulations into an explanatory process model of trauma. The model is predicated on the notion of a 'fear structure' (Lang, 1977; Lang, 1979) which is a memory network consisting of (a) stimulus information about the event, (b) cognitive, affective, physiological and overt behavioural responses and (c) interpretive information about the meaning of the stimulus and response elements of the structure. This structure is considered to be a programme for escape or avoidance behaviour.

Apart from its stimulus and response elements, what distinguishes the fear structure from other cognitive structures is the *meaning* attached to the information it contains - i.e. danger to some element of the self-system. The emphasis on meaning accounts for heightened PTSD reactions when a threatening event occurs in an environment which was previously considered secure. Foa, Steketee and Rothbaum (1989) have suggested that PTSD differs from other anxiety disorders insofar as the precipitating event was not only of major significance to the person concerned, but also violated previously held notions of security.

Foa & Kozak (1986) have proposed that fear reduction will take place when two conditions are met. Firstly, the fear structure must be accessed through fear-relevant information such as reminders of the

trauma. Because people with PTSD have large fear structures, they are easily matched and therefore readily activated. This activation, in principle, allows access to the fear structure for subsequent modification.

Secondly, information inconsistent with that existing in the fear structure must be made available so that the memory network can be modified. Compatible information will have the effect of strengthening the fear structure rather than removing it. If new incompatible information is effectively processed, the stimulus-response links in the fear structure will be broken, and information about the meaning of feared stimuli and responses will be modified.

Creamer et al. (1992) have described the traumatic process in terms of a five-stage model for which they provide empirical support.

Stage 1: Objective exposure

This stage refers to the occurrence of the potentially traumatic event itself. Although there is substantial evidence showing that the severity of the stressor is a determinant of subsequent pathology , people respond to the same stressor in different ways because of cognitive mediators, i.e. intrusion and avoidance.

Stage 2: Network formation

The stage of network formation addresses event related stimuli, responses and, most importantly, their associated meaning elements. Because subjective appraisal is critical in determining PTSD, events which are perceived as life-threatening are more likely to result in disordered arousal than are less threatening events. This stage will be influenced by the level of exposure to trauma and will itself predict the level of intrusive thoughts.

Stage 3: Intrusion

This stage refers to the entry of the fear network into working memory. Modification of the network requires that it be held in working memory for long enough to weaken S-R connections and for meaning structures to be modified.

The term 'intrusion' is potentially misleading as it may convey a sense of inherent undesirability. It is important to bear in mind that intrusion may be functional to the extent that it facilitates network resolution processing. In this sense counselling which activates the network and allows it to be adequately processed may be positively intrusive, i.e. functional.

Stage 4: Avoidance

Because the network contains aversive response elements associated with the event, the individual may be reluctant to hold them in working memory and engage in escape and avoidance (i.e. push the network, or part of it, out of consciousness).

The relief gained from avoidance may, in the long term, prove to be maladaptive. The fact that some survivors of trauma continue to experience intrusive thoughts without reduction of other symptoms may be due to the intrusive thoughts and images not being held in working memory long enough for modification to occur.

Stage 5: Outcome

According to the model, outcome will depend on network resolution processing. High levels of escape and avoidance tend to be associated with disordered arousal, whereas low levels are associated with more positive outcomes (Creamer et al., 1992).

The above formulations, whilst not presented as an exhaustive account of trauma theory, provide a conceptual background for the DSM-IV diagnostic criteria for PTSD. Most importantly, they are intended to reflect the theoretical and empirical origins of the core diagnostic constructs of intrusion, avoidance and hyperarousal.

1.2 A review of instruments for the assessment of trauma in adults

The instruments reviewed in this section have been selected and presented in terms of their assessing DSM-IV diagnostic criteria for PTSD. Instruments assessing the nature of the event (Criterion A) are presented first. These are followed by reviews of instruments which assess the symptoms of intrusion, avoidance and arousal (Criteria B, C and D).

1.2.1 Instruments assessing the nature of the event

Traumatic Stress Schedule

The Traumatic Stress Schedule (TSS; Norris, 1990) was designed as a brief screening instrument for assessing traumatic stress in the general population. The instrument quantifies experiences generically and is not linked to any single type of traumatic event.

Item selection relied on the DSM-III-R PTSD Criterion A which stated that the events should be "...outside the range of usual human experience and that would be markedly distressing to almost anyone". (American Psychiatric Association, 1987, p.250).

The TSS as originally published assessed 8 potentially traumatic events:

1 Robbery, a theft involving force or threat of force.

2 Physical assault.

3 Sexual assault (forced unwanted sexual activity of any kind).

4 Loss of a loved one through accident, homicide or suicide.

5 Personal injury or property loss as a result of fire, severe weather or disaster.

6 Being forced to evacuate or otherwise learning of an imminent danger or hazard in the environment.

7 Having a motor vehicle accident serious enough to cause injury to one or more passengers.

8 'Some other terrifying or shocking experience'.

The scale assesses 6 dimensions of an event:

(a) Tangible loss of persons or property.

(b) Scope (the extent to which persons other than the respondent were affected by the incident).

(c) Threat to life and physical integrity (including actual physical injury).

(d) Blame.

(e) Familiarity.

(f) Post-traumatic stress reactions. (This dimension assesses the response to the stressor rather than characteristics of the stressor).

In the original version, four probe questions were anchored to each event:

(i) Being suddenly reminded of it.

(ii) Thinking about it when not meaning to.

(iii) Having nightmares.

(iv) Avoiding reminiscent situations.

Norris and Perilla (1996) subsequently dropped the symptom probe questions and combined the TSS with a revised 30-item version of the Civilian Mississippi Scale.

In addition, the scale includes six non-anchored symptom questions which can be combined with each anchored set to give a brief stress measure for each event.

Norris (1992) has shown that the event portion of the scale has performed well in research over several different samples and the scale also has also shown good test-retest reliability over a one-week interval with a correlation coefficient of .88 (Norris & Perilla, 1996).

Estimates of exposure to specific traumatic events such as hurricanes have been stable across random U.S. community samples. In assessing frequencies of life-time trauma, the TSS has produced estimates ranging from 62% to 75% (Mean 69%).

The TSS is limited in that it has only a single item of sexual assault (forced, unwanted sexual activity) and it does not explicitly assess childhood physical and sexual abuse. Despite these deficits, the TSS has yielded estimates for 'any trauma' identical to those obtained by Resnick, Kilpatrick, Dansky , Saunders & Best (1993) and much higher than other instruments which have relied on a single-item measure of exposure to traumatic events (Breslau, Davis, Andreski & Peterson, 1991; Helzer, Robins & McEvoy, 1987).

Resnick et al. (1993) found the internal consistency of the symptom portion to have an alpha coefficient of .76. In addition, because of the brevity of the symptom portion of the TSS, it does not assess all the ways in which PTSD can be manifested and this detracts from its face validity. Norris & Perilla (1996) subsequently dropped the symptom probes and combined the core items of the TSS with a revised 30-item version of the Civilian Mississippi Scale.

Potential Stressful Events Interview

The Potential Stressful Events Interview (PSE; Kilpatrick, Resnick & Freedy, 1991) consists of several modules, three of which address potentially traumatic events. A fourth module, the PTSD module, consists of 20 items covering PTSD symptoms.

The high magnitude stressor module

This assesses 13 potentially traumatic events all of which involve potential life threat, including serious illness. This inclusion gives the instrument superior coverage to the TSS which only covers potentially traumatic events due to external force.

The thirteen events listed are:

1 Military war zone or combat experience
2 Serious accident in a car, at work or elsewhere
3 Natural disaster
4 Serious illness such as cancer or AIDS
5 Childhood sexual abuse
6 Childhood sexual assault
7 Other forced sexual contact
8 Aggravated physical assault (involving a weapon)
9 Simple physical assault (not involving a weapon)
10 Other situation involving serious injury
11 Other situation involving fear of injury or death
12 Witnessing serious injury or death
13 Other extraordinarily stressful events

The event inventory has the advantages of discriminating between three event categories, viz., first or only event, most recent event and worst event and is behaviourally specific and explicit in its assessment of sexual trauma.

Objective characteristics module

The section on objective characteristics describes the relevant incident in terms of injury to self and others, perceived causation, perception of perpetrator's intent to harm in crime events, suddenness, expectedness and warning received.

Subjective reactions

This comprises 15 items tapping responses at the time of the event and addresses feelings of surprise, detachment, panic and embarrassment, shame and disgust.

The PTSD module

This module comprises 20 items covering PTSD symptoms. The initial response format to items is 'Yes'/'No'. For affirmative responses, dates of first and last experiences of that symptom are recorded.

None of the items are anchored to any specific experienced event making the scale easy to administer to people with complex trauma histories.

Reliability and validity data on the first three modules have not been reported. The PTSD module has a reported kappa coefficient of .45 for stability over one year (Resnick et al., 1993).

Data collected from clinical cases as part of the DSM-IV field trials indicated acceptable concurrent validity. Kappa coefficients of agreements between a PTSD diagnosis made on the basis of this module and the Structured Clinical Interview for DSM-III-R (SCID) were .71 for current PTSD and .77 for lifetime PTSD. These analyses also indicated that the PTSD module had high sensitivity for lifetime (.99) and current (.96) PTSD. However, specificity was somewhat lower at .79 for lifetime and .80 for current PTSD.

Traumatic Events Questionnaire

The Traumatic Events Questionnaire (TEQ; Vrana & Lauterbach, 1994) consists of 13 items comprising 11 specific trauma events and 2 non-specific questions.

The 11 specific events are:

1 Combat
2 Large fires/explosions
3 Serious industrial/farm accidents
4 Sexual assault/rape (forced unwanted sexual activity)
5 Natural disasters
6 Violent crime
7 Adult abusive relationships
8 Physical/sexual child abuse
9 Witnessing someone being mutilated, seriously injured or violently killed
10 Other life threatening situations
11 Violent or unexpected death of a loved one

The two non-specific items are:

12 'Other event'
13 'Can't tell'

Probe questions assess dimensions such as life threat and injury after any affirmative response.

Test-retest reliability over a two-week period yielded high test-retest reliability (.91) for the total scale in a sample of 51 students (Lauterbach & Vrana, 1996). In a second student sample (n=440), 84% reported at least one event, which is higher than the other rates that have been reported in the literature.

Endorsement of 'miscellaneous' events was especially high: 30% had 'some other life threatening experience', 23% had 'some other event' and 9% endorsed 'Can't tell'. Specific events showed high prevalence rates.

Forty nine per cent of Vrana and Lauterbach's (1994) sample reported having a violent or unexpected death of a loved one. In keeping with Criterion A of DSM-IV diagnostic criteria, the scale defined the event population to include unexpected natural deaths as well as those from human violence and technology.

Trauma History Questionnaire

The Trauma History Questionnaire (THQ; Green, 1995) was designed to assess a variety of stressful life events as well as those covered by DSM-IV PTSD Criterion A.

The scale consists of 24 items

1 Mugging
2 Robbery- a theft by force
3 Break-in where respondent was present
4 Break in where respondent was absent
5 Serious accident at work, in a car or somewhere else
6 Natural disaster where self-loved one is in danger
7 Disaster of human origin where self/loved one is in danger
8 Other serious injury
9 Other situation where self feared being killed or injured
10 Toxin exposure
11 Witnessing serious injury or death
12 Handling bodies
13 Close friend or family member murdered or killed by a drunk driver
14 Had spouse, romantic partner or child die
15 Self had serious or life threatening illness
16 Someone close had serious or life threatening illness, injury or unexpected death
17 Combat
18 Forced intercourse, oral or anal sex
19 Forced touching of private parts

20 Other unwanted sexual contact

21 Aggravated assault

22 Simple assault

23 Beaten, spanked or pushed

24 Any other extraordinarily stressful situation or event

Probe questions are used following endorsement of an event. These assess the frequency of the event and the respondent's age at the time of the event. Generic stressor dimensions, such as life threat, are measured by counting relevant events, rather than through the use of probes embedded within events.

An unpublished reliability study by Green collected from 25 female subjects tested over a 2 to 3 month interval resulted in test-retest correlations ranging from .54 for total bereavement to .92 for total crime. A low stability coefficient ($r = 0.14$) was obtained for the total severe threat index.

Green's sample of the population of relevant events is extremely broad and, unlike other event assessments, includes deaths and illnesses of significant others, even if expected and due to natural causes. It may therefore run the risk of detecting false positives if used for assessing the prevalence of trauma.

Traumatic Life Events Questionnaire

The Traumatic Life Events Questionnaire (TLEQ; Kubany, 1995) assesses 17 events:

1 Natural disaster involving injury or exposure to death

2 Motor vehicle accident involving injury or death

3 Other accident involving injury or death

4 Combat

5 Sudden and unexpected death of a close friend or loved one due to accident, illness, suicide, or murder

6 Mugging or robbing by someone with a weapon

7 Physical assault by an acquaintance or stranger

8 Witnessing someone being attacked or assaulted

9 Being threatened with death or bodily harm

10 Childhood physical abuse

11 Physical abuse from intimate partner

12 Witnessing severe family violence

13 Childhood sexual touching by someone at least 5 years older (probe questions for force and penetration)

14 Childhood sexual touching by someone less than 5 years older

15 Adulthood unwanted sexual activity (probes for force and penetration)

16 Being stalked

17 Other extremely disturbing or distressing experience.

Four additional items ask whether intense fear, helplessness or horror was experienced during any of the listed events, whether any of the events occurred within the last two months or twelve months, and a final question asks which of the experienced events caused the most distress to the respondent.

An advantage of the TLEQ is that the relevant event population is explicitly defined and directly tied to DSM-IV Criterion A by virtue of the traumatic events involving actual or threatened death or injury.

There appear to be no published data on reliability and validity. However, a study using an earlier 13-item version of the TLEQ on 194 college students found that 69% of this sample reported exposure to one or more traumatic events - a rate corresponding to that found in a survey of 1000 adults in four USA cities (Norris, 1992) and in a representative sample of women (Resnick et al., 1993). This correspondence can be taken as indirect evidence that the scale does have some validity.

The five scales reviewed here, the TSS, PSEI, TEQ, THQ and TLEQ all purport to assess the occurrence of potentially traumatic events and overlap considerably. All the scales assess the occurrence of various events and probes affirmative responses for some additional detail. The TSS, TEQ and TLEQ probe for subjective experience of life threat and/or injury following any affirmative response. The PSEI extends this approach by assessing in detail the objective and subjective experience of up to three events. With regard to sexual trauma, the TSS is the least detailed, and the PSEI the most detailed.

Despite these similarities, there are differences in the events sampled by each scale. These differences reflect implicit or explicit differences in the definitional boundaries of the relevant event population. The TSS appears to use the most objective and restricted definition whilst the THQ appears to use the broadest definition.

The change in Criterion A from DSM-III-R to DSM-IV seems to reflect a change towards acknowledging the subjective interpretation and individual reaction to the event itself. Epidemiological studies of PTSD have consistently demonstrated that the DSM-III-R definitional notion that the event should be 'beyond the range of normal human experience' is untenable and that the subjective experience of threat of injury or death to self or other has greater utility.

The difficulty with objective event-related criteria for determining traumatic impact of an event on an individual is that from the perspectives of two major paradigms, the psychoanalytic and cognitivist, the 'threat value' of an event is in the eye of the beholder. Whilst it is clear that there are events which would clearly be threatening to most (but not necessarily all) people, the schemata and mental constructs brought to bear on the event as part of the individual's interpretive process will determine that individual's perception of the degree of threat of the event. It follows from this that to describe an event as threatening *a priori* is risky. It is therefore important for both clinicians and researchers to use instruments which tap subjective experience of events and to allow respondents to include events which are not specified on the particular inventory.

Whilst the researcher may require clear operational criteria to determine PTSD caseness, the counsellor working in primary health care contexts will, whilst also requiring diagnostic guidelines for the determination of a treatment plan, have to adopt a more idiographic approach to determine the presence or absence of trauma in the individual. Of the instruments described above, the THQ seems to be the one of greatest clinical utility because of the breadth of its definition which goes beyond DSM-IV Criterion A by including other seriously stressful life events.

For the psychologist carrying out medico-legal assessments, the TSS may be more appropriate as it uses a more restricted and objective definition of a traumatic event and, arguably, has the utilitarian advantage of being a brief screening instrument for establishing a *prima facie* case for the existence of trauma.

None of these scales have been proven to have high validity, but all have convincing levels of face validity in relation to DSM-IV Criterion A. Evidence of stability over time as measured by test-retest reliability coefficients is high for the TSS (r=.88) and for the TEQ (r=.91). The THQ has reported test-retest reliability coefficients ranging from .54 to .92. No stability data are available for the PSEI and TLEQ.

1.2.2 Scales assessing intrusion, avoidance and arousal

This section reviews instruments which assess the DSM-IV diagnostic criteria which address the symptoms of intrusion, avoidance and hyperarousal (Criteria B, C and D).

Davidson Trauma Scale

The Davidson Trauma Scale (DTS; Davidson et al., 1997) is a self-report scale designed to closely correspond to DSM-IV PTSD symptom definitions. It was designed primarily to measure symptom frequency and severity and to evaluate treatment. The DTS is made up of 17 items corresponding to each of the 17 DSM-IV symptoms covered by Criteria B, C and D.

For each item the respondent rates both frequency and severity during the previous week on a five-point scale (0-4). Subscale scores can be determined separately for both frequency and severity.

To develop the scale, Davidson and colleagues administered the DTS to 353 respondents including female rape victims, male combat veterans, survivors of Hurricane Andrew and survivors of miscellaneous traumas.

Davidson et al. (1997), conducted a series of reliability and validity checks on the instrument. Assessment of test-retest reliability was conducted on 21 respondents and found to be .86 over a two-week interval. A test of internal consistency was run on 241 respondents made up of rape victims, war veterans and hurricane survivors. The alpha coefficients for internal consistency for the 17 combined frequency and severity items was .99. For the frequency items alone the alpha coefficient was .97 and for the severity items alone it was .98.

Concurrent validity of the DTS was assessed against SCID diagnoses of PTSD. The DTS scores of 67 respondents who were diagnosed as having PTSD on the SCID were compared with DTS scores of 62 respondents who were not diagnosed on the SCID as having PTSD. The difference between the means of the two groups was found to be highly significant ($p < .0001$).

Concurrent validity of the DTS was demonstrated by Davidson et al. in two ways. Using a SCID-based diagnosis for independent validation, Davidson et al., reported a range of cutoff points for the DTS and their corresponding sensitivities (percentage with PTSD scoring at threshold or higher), specificities (percentage without PTSD scoring below threshold), positive predictive values (percentage scoring at or above threshold who have PTSD), negative predictive values (percentage scoring below threshold who do not have PTSD), and efficiencies (percentage correctly classified as having PTSD or as not having PTSD). The highest efficiency of .83 (i.e. percentage correctly classified as having PTSD) was found at a total score of 40 with a sensitivity of .69, a specificity of .95, a positive predictive value of .92 and a negative predictive value of .79. The concurrent validity of the DTS as a measure of severity was further demonstrated by its high correspondence with five categories of severity determined by another severity index, Global Assessment of Severity (Physician-rated).

Convergent validity of the DTS was determined by co-administering it with the CAPS, IES and SCL-90-R scales to different groups of respondents. Evidence of convergent validity was provided by the DTS total scores correlating significantly at .78 with CAPS total scores and by the DTS numbing/avoidance items correlating significantly at .52 with IES avoidance items. DTS intrusion/re-experiencing items also correlated significantly with the IES intrusion items (.77). Further evidence of convergent validity was

provided by the high significant correlations of the DTS total scores and each of the SCL-90-R scales. The range of these correlations was from .44 to .65, all significant at $p < .0001$.

The discriminant validity of the DTS was demonstrated by its predicted low and non-significant correlation (.04) with scores on the Eysenck Personality Inventory Extroversion scale (EPI; Eysenck & Eysenck, 1968).

Evidence of the predictive validity of the DTS was provided through a regression analysis in which baseline DTS total scores were predictive of patient response to double-blind treatment with an anti-depressant drug as measured by the Clinical Global Impressions Improvement Scale (CGI; Guy, 1976).

Despite its sound psychometric properties, the DTS is limited to the extent that the numbing, withdrawal and hyperarousal items are not explicitly linked to the traumatic event (although the intrusive and avoidance items are). In addition, unlike the IES, the DTS does not explicitly refer to avoided conversations as an example of avoidance. These characteristics limit its use as a 'free-standing' diagnostic instrument and the authors suggest that it be used in conjunction with other assessment procedures. However, the DTS can be used as an effective measure of response to treatment.

Reaction Index

The Reaction Index (RI; Frederick, 1985b; 1987) was developed in order to measure PTSD among victims of civilian trauma.

The adult version of the RI, Form A, consists of two sections: Items 1-20 comprise the symptoms portion, and items 21-28 assess the onset and duration of symptoms as well as help-seeking related to the event.

Items 1 to 20 are answered on a 5-point response format (From 0 = 'None of the time' to 4 = 'Most of the time'). Items 21-28 assess the onset and duration of symptoms as well as help-seeking related to the event.

For the symptom section (Items 1 to 20), the author suggests the following score-bands for raw scores:

Moderate PTSD:	25-39
Severe PTSD:	40-59
Very severe PTSD:	>60

The above scoring algorithm does not apply to items 21 to 28 which, by their nature, represent a separate scale.

There are no available data on internal consistency of the revised RI. However, Realmuto et al. (1992) report an alpha coefficient of 0.60 on the original version of the RI which has a Yes/No response format.

Frederick (1987) reported a test-retest coefficient of 0.77 and also found high levels of agreement between the RI and the MMPI-PTSD scale regarding the determination of caseness. Frederick (1985a) and Pynoos (1987) report a correlation of .95 between Form A of the RI and independent diagnoses of caseness. However, these data have not in themselves been published and the 'independent' diagnoses were made by Frederick and two other clinicians. Nevertheless, caseness was determined only when the three clinicians were in total agreement, so this report of concurrent validity is not without some credibility.

The RI has been used in the US, Europe, and SE Asia and there is also a widely used version for the assessment of children.

National Women's Study PTSD Module

The National Women's Study PTSD Module (NWS PTSD M; Kilpatrick, Resnick, Saunders & Best; 1989) was designed for use by lay interviewers and consists of 20 items covering PTSD symptoms.

Respondents first give Yes/No answers to questions. For all affirmative responses dates of first and last experiences of those symptoms are recorded.

Because none of the items are anchored to the specific event or events experienced, the scale is easily administered to people with histories of multiple trauma. Another advantage of this approach is that the respondent is not required to attribute the symptom to a specific experience.

The scale is typically scored dichotomously to yield measures of lifetime and current PTSD rather than to yield a continuous measure of PTSD symptomatology.

Test-retest reliability over a one-year interval for life-time PTSD has been reported by Resnick et al., (1993) as being 0.45.

DSM-IV field trials showed that the scale had concurrent validity. Kappa coefficients of agreement between a PTSD diagnosis made on the basis of this module and the Structured Clinical Interview for DSM-IIIR (SCID) were .71 for current PTSD and .77 for life-time PTSD. The trials also showed that the module had high sensitivity for lifetime (.99) and current (.96) PTSD but lower specificity (.79 for lifetime and .80 for current PTSD).

PTSD Symptom Scale

The PTSD Symptom Scale (PSS; Foa, Riggs, Dancu & Rothbaum, 1993) was originally developed as a research instrument to assess the traumatic impact of rape. It consists of 17 items corresponding to DSM-III-R criteria and symptoms are scored on a four-point scale ranging from 'Not at all' to 'Very much'.

The PSS-SR is the self-administered version of the scale and the PSS-I can be used by interviewers.

Foa and colleagues found both versions of the PSS to have acceptable reliability. The PSS-R had a coefficient alpha of .91 and subscale values were .78, .80 and .82 for the re-experiencing, avoidance and arousal subscales respectively. Test-retest reliability over one month was .74. The PSS-I had an internal consistency of .85 and subscale alphas were .69, .65 and .71.

Evidence of the concurrent validity of the PSS-I and PSS-SR was established by their correlations with the Beck Depression Inventory (.72 and .80 respectively) and the IES Intrusion subscale (.56 and .81), the Rape Aftermath Symptom Test (.67 and .81) and the State version of the State-Trait Anxiety Inventory (.48 and .52).

Evidence of convergent validity was established by the PSS-SR correctly identifying the PTSD status of 86% of respondents determined as being cases using the SCID-PTSD scale and the PSS-I version correctly identified 94% of the cases.

A modified version of the PSS-SR, the MPSS-SR, was developed by Falsetti, Resnick, Resick & Kilpatrick (1993) to elicit both frequency and severity information for each symptom. This version is longer than the original version and, probably because of this, has higher alpha coefficients of between .96 and .97 indicating excellent internal consistency.

Despite the fact that the versions of the PSS have only been validated on victims of crime, its sound psychometric properties and easy administration render it useful for assessing trauma in civilian populations.

Purdue PTSD Scale-Revised

The Purdue PTSD Scale-Revised (PPTSD-R; Lauterbach & Vrana, 1996), unlike most other scales of this type, was developed for use in heterogeneous samples. The scale corresponds to DSM-IV PTSD criteria and consists of 17 items assessing experiencing, avoidance and arousal. Respondents report how often they have experienced each symptom over the past month on a 5-point scale ranging from 'Not at all' to 'Often'. The scale can be scored continuously or dichotomously.

A study by Lauterbach and Vrana (1996) on a sample of 440 male and female undergraduates who had experienced a variety of traumatic events found that the internal consistency coefficient alphas for the three subscales were .91, .84 and .79. The alpha coefficient for the full scale was .81. In a second study, test-retest reliability coefficients were .72, .48, .67 and .71 respectively.

The PPTSD-R has been shown to have acceptable convergent validity. In Lauterbach and Vrana's study the PPTSD-R correlated .66 with the IES and .50 with the Civilian Mississippi Scale suggesting convergent validity. Low correlations with the BDI ranged from .37 to.39 indicating discriminant validity.

Although the Purdue scale has generally acceptable psychometric properties, the poor stability of the re-experiencing subscale (.48) is problematic. There are also some doubts about the sensitivity of the avoidance subscale as in the Lauterbach and Vrana studies it did not discriminate between respondents reporting a traumatic event and those who did not. This is important as in traumatized populations Criterion C (Avoidance) is met less often than Criteria B and D and will therefore influence classification (Solomon & Canino, 1990; Norris, 1992; Norris & Perilla, 1996).

PTSD Interview

The PTSD Interview (PTSD-I; Watson, Juba, Manifold, Kucala & Anderson, 1991) was originally intended for the assessment of war veteran populations by lay interviewers but has since been used extensively with civilian populations because of its flexibility. The PTSD-I corresponds closely with DSM-IV criteria and consists of 17 symptom items. Each item is responded to on a seven-point scale. Some items are rated from 'No' to 'Extremely'; others are rated from 'Never' to 'Always'. (The original version consisted of 20 items with one of the additional three items enquiring about the nature of the event and two about the duration of symptoms).

Scoring can be continuous or dichotomous, and the authors recommend that any symptom receiving a score of 4 or higher be counted as a symptom of PTSD

Watson et al., report a one-week test-retest reliability coefficient of .95 and an internal consistency alpha coefficient of .92.

The validity of the scale has been demonstrated on veteran populations (Watson et al., 1991) with PTSD-I item ratings correlating .77 with their DIS counterparts. The kappa coefficient with the DIS was .84. The PTSD-I has showed a sensitivity of .89 and a sensitivity of .94. The convergent validity of the PTSD-I has also been demonstrated (Watson et al., 1994). When continuous scoring was used, the PTSD-I correlated .84 with Mississippi Scale for Combat Related PTSD and .79 with the MMPI-PTSD scale. When

dichotomous scoring was used, the equivalent kappa coefficients were .59 and .60 respectively. The scale therefore appears to have desirable psychometric properties.

Civilian Mississippi Scale

The Civilian Mississippi Scale (Keane, Caddell & Taylor, 1988) was derived from the psychometrically sound Mississippi Scale for Combat-Related PTSD. The original scale consisted of 35 items and four items were subsequently added. However, psychometric data are only available on the 35-item version. The items fall into four categories: Re-experiencing (Criterion B), withdrawal and numbing (Criterion C), arousal (Criterion D) and self-persecution (guilt and suicidal tendencies).

All items are answered on a five-point scale with varying response formats addressing the frequency of the item or how true it is for the respondent.

In a study of 668 civilians, Vreven, Gudanowski, King and King (1995) found that the instrument had internal consistency of .86. (This was lower than the combat-related form which had an internal consistency coefficient of .94. Vreven et al. concluded that there is some doubt about the scale's convergent and discriminant validity as it was only weakly correlated to the DIS-PTSD scale. In addition, Lauterbach, Vrana, King and King (1995) found that in a sample of university students the scale correlated more highly with the BDI (r=.72) and Spielberger Trait Anxiety Scale (.71) than with the IES (.34) or PPTSD-R (.50).

Norris and Perilla's (1996) amendments to the Civilian Mississippi Scale gave rise to a new version, the Revised Civilian Mississippi Scale which consists of 30 items with increased focus on post-traumatic stress. Only 24 of the original items were retained with two additional intrusion items selected from the TSS because of their high rates of endorsement in previous research with victims of traumatic events (Norris, 1992). Question formats were also changed with the first 18 symptom items anchored to specific events. In addition, all items are scored on the same five-point scale ranging from 'Not at all true' to 'Extremely true'.

Internal consistency of the revised scale has varied from .86 to .88. The intrusion and avoidance subscales have shown internal consistency alpha coefficients of .70 and .79 respectively (Norris and Perilla, 1996). Norris and Perilla also administered the scale to 299 English speaking respondents and 94 Spanish speaking respondents who had experienced Hurricane Andrew 6 moths previously. This study showed that both the English and Spanish versions of the scale had good internal consistency. Spanish subscale and total alphas were .92, .86, .72 and .80 respectively, and the English version equivalents were .88, .84, .64 and .69.

Norris and Perilla found some evidence of the scale's distinct-groups validity. Scores were significantly higher for victims reporting life threat or injury than those reporting only loss of property or damage. However, the convergent and divergent validity of the scale has not yet been demonstrated.

Penn Inventory for PTSD

The Penn Inventory for PTSD (Hammarberg, 1992) was originally developed for the assessment of combat veterans but its wording has allowed it to be used in civilian contexts as well. The instrument consists of 26 items with each item composed of four sentences scored from 0 to 3. The sentences represent different levels of severity or frequency of a thought or feeling.

In a series of three studies, Hammarberg (1992) found the alpha coefficient of the scale to be .94 demonstrating good internal consistency. The test-retest reliability over a 5-day interval was .96. In comparisons of patients with PTSD and patients without PTSD, the non-PTSD groups scored significantly lower means on the Penn Inventory than did the PTSD groups.

The sensitivity of the Penn Inventory with combat veteran patients was .97, but the specificity was only .61. With disaster victims the sensitivity was .94 and specificity was 1.0. These results suggest that the scale can be used with both veteran and civilian populations.

The convergent validity of the Penn Inventory has been demonstrated by Kutcher, Tremont, Burda and Melman (1994) who found that it correlated .78 with the Mississippi Combat scale and .72 with a revised version of the MMPI, the MMPI-2-PTSD. However, these investigators found that the divergent validity of the Penn was questionable as it correlated .82 with the BDI suggesting that it might be detecting general distress rather than PTSD. In contrast to this, the Mississippi Scale and MMPI-2-PTSD scale correlated .65 and .68 with the BDI scores respectively.

The reliability and validity studies on the Penn Inventory have focused on male combat veterans and male patients. Further studies on female and non-veteran populations need to be carried out. A further criticism is that the item format on the Penn Inventory is relatively complex and it is not clear whether all respondents fully understand the items. Checks on the necessary minimal reading age would help to clarify this issue.

Trauma Symptom Checklist-40

The Trauma Symptom Checklist-40 (TSC; Briere & Runtz, 1989) was developed for clinical research into adult survivors of childhood sexual abuse. In its original form the TSC consisted of 33 items comprising five subscales: anxiety, depression, dissociation, post-sexual abuse trauma and sleep disturbance. Because

of poor reliability of the sleep disturbance subscale, the subscale was amended and a subscale for sexual problems was added resulting in a 40-item version.

Responses are rated on a five-point scale ranging from 'Not at all true' to 'Very often true'.

In a large-scale sample of 2963 professional women, Elliott and Briere (1992) found that the TSC-40 had an internal consistency of .90. Internal consistencies of all the subscales in the revised version were also acceptably high. Elliott and Briere also found that the TSC-40 had sound distinct groups validity in that it discriminated well between women who had suffered childhood sexual abuse and those who had not across all subscales as well as for the total scale score.

In an unpublished study, Demare and Briere (1995) reported further evidence of the scale's validity by administering it to a sample of 1179 respondents comprising both male and female students. Reported frequencies of abuse were 49% amongst female students and 33% amongst male students. All tests of difference between respondents reporting childhood sexual abuse and those not reporting such abuse were significant in both the male and female samples. In addition, the reliability alpha coefficients were similar for both sexes. The total scale alpha for men was .91; for women it was .92. Subscale alphas for men ranged from .65 to .73; subscale alphas for women ranged from .68 to .76.

Trauma Symptom Inventory

The Trauma Symptom Inventory (TSI; Briere, 1995) consists of 100 items. Because of its length it tends to be used in clinical rather than research contexts and is made up of ten clinical scales: Anxious arousal (AA), Depression (D), Anger/Irritability (AI), Intrusive Experiences (IE), Defensive Avoidance (DA), Dissociation (DIS), Sexual concerns (SC), Dysfunctional sexual behaviour (DSB), Impaired self-reference (ISR) and Tension reduction behaviour (TRB). The alpha coefficients of these subscales are acceptably high ranging from .70 to .91. The inventory also includes three validity scales.

Briere (1995) determined norms by means of a mail survey sample (n= 836) reflecting the U.S. population in terms of sex, ethnicity and state of residence. Referencing can be carried out against T-score values.

The construct validity of the scale has been established through factor analyses which showed that four of the scales, IE, DA, DIS and ISR are manifestations of traumatic stress and three of the scales, AI, D and AA, reflect generalized dysphoria. The remaining scales reflect a third factor, 'Self', which may be specific to sexual trauma and dysfunction.

The scale also discriminated between those who had suffered trauma in childhood and adulthood (either through violence or disaster) and those who had not. Validity has further been demonstrated by the scale's predicted correlations with the Brief Symptom Inventory (BSI) and IES.

Briere, Elliott, Harris and Cotman (1995) conducted studies with clinical samples and found further support for the internal consistency and construct validity of the scale. However, there are as yet no data available on the sensitivity and specificity of the TSI scales.

MMPI-PTSD (PK) Scale

This scale differs from the other scales reviewed in that it was empirically rather than rationally derived. Developed by Keane, Malloy & Fairbank (1984), the scale consists of 46 items included because they discriminated between combat veterans who did and did not have PTSD. Items are scored dichotomously, but the total scale score yields a continuous measure of symptomatology.

The scale has been found to be very reliable with an alpha coefficient of .95 and test-retest reliability of .94 over a two to three-day interval (Herman, Weathers, Litz, Joaquim and Keane, 1993). However, the validity of the scale has come into question as it does not measure all the DSM-IV PTSD criteria.

The convergent validity of the MMPI-PTSD scale has been demonstrated by Neal et al., (1994) in a heterogeneous sample of civilian and veteran trauma victims and found that it correlated highly with the Clinician Administered PTSD Scale (CAPS) measures of endorsed symptoms ($r = .84$) and symptom intensity ($r = .85$) as well as with the IES ($r = .79$). However, divergent validity has not been clearly demonstrated as the correlation with a general measure of distress was equally high (.82).

When diagnoses of PTSD were made on the basis of CAPS scores, an MMPI-PTSD cutoff point of 21 yielded a sensitivity of .83 and a specificity of .79. However, there is considerable controversy over what constitutes an appropriate cut-off point for this instrument. The IES is a briefer instrument and performed even better in the same study. This suggests that the IES, which has sound psychometric properties, may be the preferred instrument.

Symptom Checklist 90 PTSD Scale

The Symptom Checklist 90 PTSD Scale (SCL-PTSD Scale; Saunders, Arata & Kilpatrick, 1991) has its origins in the SCL-90 developed by Derogatis (1977). The SCL consists of 90 items constituting nine subscales assessing somatization, depression, anxiety, phobic anxiety, hostility, obsessive-compulsive behaviour, paranoid ideation, interpersonal insensitivity and psychoticism.

Items are scored on a five-point scale ranging from 'Not at all' to 'Extremely'. Saunders et al., (1991) selected 28 items from the SCL-90 which discriminated between crime victims with and without PTSD and named this the SCL-PTSD scale.

Coefficient alpha for the SCL-PTSD scale is .93, indicating good internal consistency.

Arata, Saunders and Kilpatrick (1991) compared the SCL-PTSD Scale to the IES on a sample of 266 women with a history of criminal victimization and found that both scales discriminated well between those with PTSD and those not diagnosed as having PTSD. It is of interest that the correlation between the SCL-PTSD scale and the IES was low (.44), suggesting that both scales might have been tapping different aspects of the same phenomenon. No significant difference between the two instruments was found in terms of their sensitivity, but the specificity of the SCL was superior. However, this finding might be a sampling artefact as it has not been replicated on heterogeneous samples.

The SCL-PTSD Scale is not anchored to any specific event and can therefore be administered without the researcher or clinician knowing the individual's trauma history. This advantage notwithstanding, further validation studies are required before it can be established as an appropriate measure of PTSD.

SCL-Supplemented PTSD

The SCL-Supplemented PTSD scale was developed by Ursano, Fullerton, Kao and Bhartiya (1995). Unlike the SCL-PTSD scale it was rationally rather than empirically derived and is therefore closer to DSM-IV PTSD diagnostic criteria B, C and D. The scale consists of 31 items chosen for their correspondence to categories B, C and D as well as another 12 items to give greater symptom coverage.

The scale has the advantage of being able to use DSM-IV guidelines for determination of caseness.

Ursano et al. assessed the validity of the SCL-Supplemented scale by using it to assess individuals whose caseness had been determined by the MMPI-PTSD scale with a cutoff point of 19. Given the controversial status of the MMPI-PTSD scale's most appropriate cutoff point, this may not have been the best strategy. However, specificity of the SCL scale was .91 and sensitivity was .67 with 88% of respondents being 'correctly' classified. Ursano et al., did not report reliability studies on their scale. The psychometric status of the instrument has therefore not been well established and requires further research.

Impact of Event Scale and Impact of Event Scale-Revised

The Impact of Event Scale (IES; Horowitz et al., 1979) and its revised version (IES-R; Weiss and Marmar, 1997) are covered in the following sections and are therefore only listed here for the sake of

completeness. The IES assesses the intrusive and avoidant components of PTSD symptoms and has been shown to have acceptable psychometric properties. The IES-R represents an extension of the original IES in that it also assesses the hyperarousal symptoms of trauma. Because the recommended scoring system for IES-R differs from that of the IES, its equivalent subscales cannot be referenced against IES norms.

Summary and conclusion

The review of the above scales was motivated by academic as well as practical professional needs. From the perspective of a psychologist who works in medico-legal contexts there was a need to have access to measures which might provide relatively objective evidence of traumatic events which occurred prior to the event which gave rise to litigation. From the perspective of a counselling psychologist, such instruments can also be helpful in determining the client's whole trauma history. This can be important as presenting traumatic events frequently trigger reactions to preexisting trauma. An awareness of preexisting traumatic events can facilitate time-limited trauma therapy through the counsellor helping the client to focus on relevant material. Instruments assessing the nature of the event were therefore reviewed in section 1.2.1.

In section 1.2.2 self-report scales assessing intrusion, avoidance and arousal were reviewed. The instruments reviewed do not constitute an exhaustive list, but represent a selection of widely used self-report instruments most of which can be used in both clinical and research contexts. Most of the scales reviewed have adequate to excellent psychometric properties and, by design, the rationally derived scales are closer to DSM-IV criteria than those which were empirically derived. From the perspective of the practising counsellor it may be advisable to employ a rationally derived scale such as the DTS, IES or IES-R, especially where issues of audit are of relevance as in NHS and EAP counselling. Such scales can also prove to be a helpful adjunct to counselling work where symptoms are taken as an indicator of outcome.

It is unlikely that any self-report scale can match the depth of qualitative information provided by a skilfully administered clinical interview in which verbal and non-verbal cues are presented by the client. However, appropriate and psychometrically sound scales are a helpful adjunct to clinical interviews in that they offer an additional source of information for diagnosis and hypothesis formulation as well as permitting the objective measurement of clinical change.

The author has for some time used the Impact of Event Scale (IES) and, more recently, a revised version, the IES-R, as psychometric aids to assessment. Issues relating to these scales are addressed in the following sections.

2 Psychometric studies

2.1 Study 1: Determination of local IES norms

General description of the IES

The Impact of Event Scale (IES; Horowitz, Wilner & Alvarez, 1979) arose from a research-driven need to measure the impact of seriously stressful life events in a way that was directly linked to the event and that taps directly into the intrusion and avoidance components of the stress response described by Horowitz (1976).

The IES assesses the intrusive and avoidant components of trauma (DSM-IV criteria B and C for post-traumatic stress disorder and criteria C and D for acute stress disorder). The full scale shown in Appendix 1 comprises fifteen items. Seven of these address episodes of intrusive thoughts and images (Items 1, 4, 5, 6, 10, 11 and 14), and eight address avoidant cognition, affect and behaviour (Items 2, 3, 7, 8, 9, 12 ,13 and 15). The items were selected by means of a cluster analysis of a pool of items generated by individuals who had experienced a serious life event and who had reacted with a stress response syndrome. In addition to the original research by Horowitz et al.(1979), a factor analytic study by Zilberg, Weiss & Horowitz (1982) has confirmed the validity of grouping the items into the Intrusion and Avoidance dimensions.

Administration and scoring

In typical assessment procedures, individuals respond to the IES by focusing on the specific relevant life event and indicating how frequently each of the items have applied to them over the preceding seven days. For each item, respondents are required to circle one of the following:

N = Not at all (0)

R = Rarely (1)

S = Sometimes (3)

O = Often (5)

The figures in parentheses indicate the scores which are then allocated to each of the responses. Using this scoring system the possible Intrusion score ranges from 0 to 35, and the possible Avoidance score range is from 0 to 40. (It should be noted that some scorers prefer to use a 0, 1, 2, 3 format for scoring the IES, but this can prove problematic when referencing these scores against norms which are based on the original 0, 1, 3, 5 scoring protocol).

The meaningfulness of totalling the Intrusion and Avoidance subscales is contentious. The defence for this procedure is that Horowitz et al. (1979) reported a split-half reliability for the total IES scale of $r = 0.86$ and a moderate but significant correlation of 0.42 ($p > 0.0002$) between the intrusion and avoidance

subscale scores and therefore presented total scale norms. However, although Zilberg et al. (1982) reported moderate to high correlations between the subscales in non-distressed groups, they found no significant associations between the subscales in a pre-treatment client group. Linking this lack of association to the oscillation in Horowitz's postulated stress response syndrome, Zilberg et al. (1982) advise against combining the subscales into a total distress score. Despite the contentiousness of this issue, the ratings for all 15 items are typically summed to obtain a total distress score. The total score range is from 0 to 75.

Psychometric properties of the IES

Reliability

The IES has been shown to be reliable. Horowitz et al. (1979) found a split-half reliability of 0.86 for total scale scores in their sample of clients seeking treatment for the effects of a traumatic life event. Cronbach's alpha for the intrusion subscale was 0.78 and 0.82 for the avoidance subscale on the same sample of respondents. Zilberg et al. (1982), using a sample of bereaved individuals who had lost a parent, reported the internal consistency of the intrusion subscale as 0.86 and of the avoidance subscale as 0.88. Schwarzwald, Solomon, Weisenberg & Mikulincer (1987) have cited Cronbach coefficients alpha of 0.91 for the intrusion subscale and 0.84 for the avoidance subscale. Hendrix, Jurich & Schumm (1994) reported an alpha coefficient of 0.93 for the total scale. More recently, Briere and Elliott (1998) mailed the IES and other questionnaires to a stratified sample of adults who reported a wide range of potentially traumatic experiences including childhood sexual abuse, childhood physical abuse, childhood witness to interpersonal violence, childhood exposure to major non-interpersonal stressors such as road traffic accidents or natural disasters, adult sexual assault, adult physical assault, adult witness to interpersonal violence and adult exposure to non-interpersonal trauma. Data from 498 respondents yielded an alpha coefficient of 0.94 for the IES total score and alpha coefficients of 0.90 for each of the subscales.

Test-retest reliability of the IES has also been found to be acceptable. In a sample of 25 physical therapy students who had been exposed to a cadaver for the first time, Horowitz et al.(1979) found a one week test-retest reliability of 0.87 for the total scale score, 0.89 for the Intrusion subscale and 0.79 for the Avoidance subscale.

Validity

The convergent validity of the IES has been demonstrated in a wide range of studies. Davidson and Baum (1986) found IES scores to be significantly associated with a variety of measures of chronic stress including somatic complaints, impaired concentration, impaired interpersonal relationships, depression, anxiety, anger, fear and alienation as well as physiological measures. In addition, several studies of U.S. war veterans have found significant associations between the IES and other measures of post-traumatic

stress (Weisenberg, Solomon, Schwarzwald & Mikulincer, 1987; McFall, Smith, Mackay & Tarver, 1990; McFall, Smith, Roszell, Tarver & Malas, 1990).

The IES has also been found to have distinct-groups validity in that it discriminates between a variety of traumatised and non-traumatised groups amongst victims of crime (Arata, Saunders & Kilpatrick, 1991), firefighters (Bryant and Harvey, 1996) and adults sexually abused as children (Elliott and Briere, 1995). Horowitz et al. (1979) demonstrated that the IES discriminated between individuals from different populations. Medical students who had for the first time been exposed to a cadaver during the week prior to responding to the IES showed much lower scores than a patient group who had experienced an individually specific stressful event an average of 25 weeks earlier. Zilberg et al. (1982) found that individuals who sought treatment after the loss of a parent had significantly higher subscale scores than a group not seeking treatment.

The sensitivity of the IES to change was demonstrated by Horowitz et al. (1979) who had 32 patients complete the scale immediately before and after a brief therapy aimed at the amelioration of their stress response syndromes. About 80% of these patients improved and some four months after therapy had terminated, their IES scores were significantly lower ($p<0.05$) than their pre-therapy scores for both the subscales and total scale. Similarly, Zilberg et al. (1982) found a significant difference in pre-post therapy IES scores. Zilberg et al., (1982), Seidner, Amick & Kilpatrick (1988) and Sloane (1988) have demonstrated that the IES is also sensitive to the amelioration of symptoms with the passage of time after a traumatic event.

Interpretation of the IES

Several studies have yielded limited normative data on the IES (e.g. Horowitz et al., 1979; Zilberg et al., 1982; Hetherington, 1993; Davidson and Baum, 1986; Briere and Elliott, 1998). Raw scores for the intrusion and avoidance subscales and, in most cases, the total score can be referenced against these norms which are summarised in Table 1.

Table 1 **Means and standard deviations for norm-referencing IES scores**

Group	Total Mean SD	Intrusion Mean SD	Avoidance Mean SD
Horowitz et al. (1979)			
Male clients	35.3 (22.6)	21.2 (12.5)	14.2 (12.0)
Female clients	42.1 (16.7)	21.4 (8.6)	20.6 (11.3)
Male students	6.9 (6.8)	2.5 (3.0)	4.4 (5.3)
Female students	12.7 (10.8)	6.1 (5.3)	6.6 (7.0)
Zilberg et al. (1982)			
Parental death			
Clients		21.2 (7.9)	20.8 (10.2)
Non-clients		13.5 (9.1)	9.4 (9.6)
Hetherington (1993)			
Road patrol officers	22.8 (14.4)	11.8 (8.2)	11.1 (7.9)
Davidson and Baum (1986)			
Nuclear accident			
Close survivors	18.9 (17.0)	10.3 (9.2)	8.5 (8.6)
Distant survivors	11.2 (12.6)	5.4 (8.0)	5.8 (6.4)
Briere and Elliott (1998)			
Stratified population sample			
No trauma history	8.1 (12.3)	3.9 (6.2)	4.2 (6.8)
Trauma history	16.7 (17.9)	7.0 (9.2)	8.5 (9.6)
Total sample	14.3 (17.0)	7.0 (8.7)	7.3 (9.1)

Until relatively recently, there were no normative data on the IES for the general population making it difficult to determine the clinical significance of a client's IES scores. This situation has been partially remedied by a study by Briere and Elliott (1998) who derived percentile scores from a stratified sample (N=498) of American respondents. These data are shown in Table 2.

Table 2 **Distribution of Impact of Event Scales (IES) expressed in percentiles**

(Briere and Elliott, 1998)

Percentile	Total	Intrusion	Avoidance
< 40	0-2	0	0
40-44	3-4	1	1
45-49	5-6	2	2
50-54	7-9	3	3
55-59	10-11	4	4-5
60-64	12-14	5-6	6-7
65-69	15-17	7-8	8
70-74	18-21	9-10	9-10
75-79	22-27	11-13	11-14
80-84	28-33	14-16	15-17
85-89	34-38	17-19	18-21
90-94	39-46	20-25	22-25
95-99	47-66	26-33	26-35
>99	67-75	34-35	36-40

N=498

Despite the acceptable psychometric properties of the IES, its use in primary health care contexts for the assessment of PTSD has been limited by the available norms which are inevitably sample-specific and may not be appropriate to the population on which the instrument is used. For counselling psychologists working in inner city UK practices, it would be helpful to have norms drawn from local populations. This study reports normative data drawn from three South London primary health care practices.

Method

A retrospective comparison was made of IES scores of two groups of clients referred for counselling by their General Practitioners at two South London Primary Health Care practices. Scores from one group of clients, designated 'the PTSD group', were allocated to this category either on the basis of having been diagnosed by their GPs as suffering from PTSD following a recent traumatic event or on the basis of the psychologist having established a positive DSM-IV based diagnosis of PTSD during the assessment interview. The 'non-PTSD group' consisted of clients whose presenting problems on assessment were not

of a traumatic nature and where there was no evidence of residual PTSD symptomatology which could be linked to a specific distressing event.

All clients completed the IES questionnaire at the end of the first assessment session with the counsellor. The PTSD group anchored their IES responses to their presenting traumatic event. To screen for possible PTSD, members of the non-PTSD group were asked to anchor their responses to what in their view was the most distressing event they had experienced.

Participants

The total sample (N=79) consisted of 26 male and 53 female respondents. The PTSD group comprised 20 males and 36 female respondents (n=56); the non-PTSD group sample comprised 7 male respondents and 16 female respondents (n=23).

The mean age of the total sample was 37.6 years (Minimum age: 14 years; maximum age 77 years; S.D.13.01). The mean age of female respondents (N=52) was 34.8 (S.D. 10.45). The mean age of male respondents (N=27) was 42.8 (S.D. 15.84).

The categories of events to which the two groups anchored their responses are shown in Tables 3 and 4.

Table 3 **Categories of events experienced by the PTSD group** (N=56)

Percentages are in parentheses

Category of event	Number of clients
Road traffic accidents	9 (16.1)
Rail accidents	2 (3.6)
Aircraft emergency	1 (1.8)
House fire	2 (3.6)
Unwanted and forced sexual activity of any kind as an adult	6 (10.7)
Victim of domestic violence not involving sexual abuse	3 (5.4)
Victim of childhood sexual abuse by family friend or relative	6 (10.7)
Victim of physical attack in public	4 (7.2)
Witness to a violent attack in public	1 (1.8)
Robbery with threatened or actual violence	5 (8.9)
Burglary with threatened or actual violence	3 (5.4)
Traumatic bereavement	4 (7.2)
Diagnosis of life-threatening illness	4 (7.2)
Involvement in a natural disaster	1 (1.8)
Miscarriage	1 (1.8)
Unwanted termination of pregnancy	2 (3.6)
Industrial accidents	2 (3.6)

Table 4 **Categories of events reported by the non-PTSD group** (N=23)

Percentages are in parentheses

Category of event	Number of clients
Road traffic accidents	3 (13.0)
Unwanted and forced sexual activity of any kind as an adult	1 (4.4)
Victim of childhood sexual abuse by family friend or relative	1 (4.4)
Victim of physical attack in public	1 (4.4)
Robbery with threatened or actual violence	1 (4.4)
Natural death of family member	8 (34.8)
Infidelity of partner	3 (13.0)
Involvement in a natural disaster	1 (4.4)
Miscarriage	1 (4.4)
Termination of pregnancy	2 (8.7)
Imprisonment of family member	1 (4.4)

Instruments

The IES scale (Appendix 1) was administered to all respondents.

Results

IES means and standard deviations were computed for male and female cases and for male and female non-cases respectively. Data for the case sample are shown in Table 5 and data for the non-case sample are shown in Table 6. (See Appendix 2 for raw scores).

Table 5 **Local primary care IES normative data for PTSD cases by gender** (N=56)

Scale	Sex	n	Mean	Standard Dev.	SE
Intrusion	F	36	25.67	7.35	1.22
	M	20	24.10	8.61	1.92
Avoidance	F	36	26.64	8.13	1.36
	M	20	22.40	8.72	1.95
Total	F	36	52.25	13.06	2.18
	M	20	46.5	15.39	3.44

Table 6 **Local primary care IES normative data for non-cases by gender** (N=23)

Scale	Sex	n	Mean	Standard Dev.	SE
Intrusion	F	16	9.70	10.16	2.54
	M	7	13.14	7.38	2.79
Avoidance	F	16	9.56	10.50	2.61
	M	11	16.29	9.88	3.74
Total	F	16	19.25	16.87	4.22
	M	7	24.00	14.12	5.33

To test for gender differences, F-tests for homogeneity of variance were run on the data. These indicated homogeneity of variance, and consequently t-tests were run on the male and female means for cases and non-cases respectively with alpha set at .01. The results for cases and non-cases are shown in Table 7 and Table 8 respectively.

Table 7 **Comparison by gender of IES scores in case sample** (N=56)

Scale	**F**	**Probability**	**|t|**	**Significance (54 d.f.; 2-tailed)**
Intrusion	1.3721	.41	0.7188	n.s.
Avoidance	1.1510	.70	1.8222	n.s.
Total	1.3887	.39	1.4806	n.s.

Table 8 **Comparison by gender of IES scores in non-case sample** (N=23)

Scale	**F**	**Probability**	**|t|**	**Significance (21 d.f.; 2-tailed)**
Intrusion	2.2549	.32	1.6975	n.s.
Avoidance	1.5560	.46	1.3189	n.s.
Total	1.0682	.85	1.7813	n.s.

Because no significant gender differences were found across all scales for both the case and non-case samples, data for male and female respondents were collapsed for both the case and non-case groups. The normative data for the collapsed groups are presented in Table 9.

Table 9 **Psychometric characteristics of the Impact of Event Scale for a local primary health care sample with male and female scores collapsed**

Total sample N=79	**Mean**	**SD**	**SE**	**Median**	**Skew**	**Kurtosis**
Intrusion	20.92	10.52	1.18	21	-.41	-.91
Avoidance	20.72	11.30	1.27	21	-.16	-.76
Total	41.61	19.83	2.23	46	-.38	-.64
Non-cases n=23	**Mean**	**SD**	**SE**	**Median**	**Skew**	**Kurtosis**
Intrusion	10.74	9.38	1.96	10	.88	.31
Avoidance	10.00	10.08	2.10	7	1.03	.52
Total	20.70	15.92	3.32	19	.59	-.48
Cases n=56	**Mean**	**SD**	**SE**	**Median**	**Skew**	**Kurtosis**
Intrusion	25.12	7.78	1.04	27	-.52	-.60
Avoidance	25.13	8.52	1.14	26	.11	-.82
Total	50.20	14.08	1.88	51	-.21	-.43

Local case and non-case means were compared. The highly statistically significant differences between the means of these two groups indicates that they were drawn from different populations.

Table 10 **Comparison of local IES cases (n=56) and non-cases (n=23)**

Scale	**F**	**Sig.**	**|t|**	**Significance (1-tailed test)**
Intrusion	1.4526	n.s	6.4882	p<.0001
Avoidance	1.4004	n.s	6.3297	p<.0001
Total	1.2786	n.s.	7.7336	p<.0001

The normative data generated by this study were then compared to the means and standard deviations provided by Briere and Elliott (1998). Table 11 shows significant differences between the two sets of norms on all scales for all sub-sets of respondents.

Table 11 **Comparison of local IES normative data with data provided by Briere & Elliott (1998)**

	Local (1999)		Briere & Elliott (1998)			
Non-cases						
Scale	**Mean**	**SD**	**Mean**	**SD**	**|t|**	**Sig. (2-tailed test)**
Intrusion	10.74	9.38	3.9	6.2	4.5452	p<.01
Avoidance	10.00	10.08	4.2	6.8	3.5329	p<.01
Total	20.70	15.92	8.1	12.3	4.3811	p<.01
Cases						
Scale	**Mean**	**SD**	**Mean**	**SD**	**|t|**	**Sig. (2-tailed test)**
Intrusion	25.12	7.78	7.0	9.2	13.9556	p<.0001
Avoidance	25.13	8.52	8.5	9.6	12.2136	p<.0001
Total	50.20	14.08	16.7	17.9	13.3503	p<.0001
Total samples						
Scale	**Mean**	**SD**	**Mean**	**SD**	**|t|**	**Sig. (2-tailed test)**
Intrusion	20.92	10.52	7.0	8.7	12.8012	p<.0001
Avoidance	20.72	11.30	7.3	9.1	11.7390	p<.0001
Total	41.61	19.83	14.3	17.0	12.9370	p<.0001

Discussion

This preliminary study has two major limitations. The first is that of sample size. Because archival data from practice records were accessed for the PTSD group, only 56 clear PTSD cases could be accessed. In addition, the 'non-PTSD' group was limited to 23 respondents who had been referred by their GPs for counselling. (The small size of this sample occurred because at the time of the research a change to the IES-R as an assessment instrument was being effected).

The second limitation is that the 'non-PTSD/non-case' group comprised clients who were already suffering from some degree of distress, albeit non-trauma-related, and their responses to the IES might have been influenced by their distress. The argument against this, however, is that since IES items are linked to a specific event, and that for this group the event was not a primary feature of their distress, their responses could be taken as a valid measure of 'non-trauma'. Nevertheless it is acknowledged that the inclusion of a local 'non-clinical' group would have been a preferable sample of a non-PTSD population.

As in the Briere and Elliot (1998) sample, no significant gender differences were found. Comparison of these collapsed data with the Briere and Elliott collapsed data suggests that in the practices concerned, it may not be appropriate to reference scores against the Briere and Elliott norms.

The highly significant differences between the means for cases and non-cases on the Intrusion, Avoidance and Total IES scores suggests that the instrument was discriminating well between the two groups and that

there was some evidence in favour of using these data for initial screening of referred patients. However, these norms should serve as only one source of evidence for determining caseness, and diagnosis of PTSD should be triangulated against qualitative interview data to establish whether DSM-IV PTSD diagnostic criteria have been met.

The reported local norms can also be used for the purpose of detecting clinically significant change (as opposed to statistically significant or reliable change) following an intervention for PTSD. To detect *reliable* change in a client it would be necessary to observe a change of scores of at least two standard errors of difference (1.96 SED) in the client's scores on the relevant scale. However, in clinical practice this is not an appropriate criterion. Here *clinically* significant change may be more relevant and this can be determined in a number of ways, all contingent upon the availability of relevant norms.

Jacobson and colleagues (Jacobson and Revenstorf 1988; Jacobson and Truax, 1991) suggest three methods of determining clinically significant change. The first is to observe a pre-post intervention change of at least two standard deviations from the clinical (in this case, 'traumatised') group mean. However, this approach is limited as it does not compare the post-intervention score to that of a non-clinical (in this case, 'non-traumatised') group.

A second method is to observe a pre-post change which places the client to within two standard deviations of a non-clinical mean. The disadvantage of this approach is that it does not relate the post-intervention score to that of the clinical sample and therefore does not give an indication of the extent to which the client has moved from the clinical to the non-clinical sample.

A third method is to determine a cut-off point at which, in principle, there is an equal probability of the client falling into each of the distributions. Clients whose IES scores have fallen from threshold or above to below the cut-of threshold would be assessed as 'non-PTSD' and therefore clinically improved.

The cut-off point can be determined by the formula:

$$\frac{\mathbf{Mean}_{\text{clinical}}\,\mathbf{SD}_{\text{Non-clinical}} + \mathbf{Mean}_{\text{Non-clinical}}\,\mathbf{SD}_{\text{Clinical}}}{\mathbf{SD}_{\text{Non-clinical}} + \mathbf{SD}_{\text{Clinical}}}$$

Using this method, possible IES cut-off points derived from both the local and Briere and Elliott (1998) norms were calculated. These are shown in Table 12.

Table 12 **Possible IES cut-off points for local and Briere & Elliott (1998) data**

IES scores	Local norms	Briere & Elliott norms
Intrusion	19	5
Avoidance	18	6
Total	36	12

The evident disparity between the local and Briere and Elliott cut-off points was to be expected given the different populations from which the respective respondents were drawn. Briere and Elliott used a large random stratified sample, whereas the present study was limited to referred clients. If these local cut-off points are used, the counsellor knows only that the client's IES scores have moved to the non-PTSD, but a nonetheless clinical group, and there remains a need for corroborative data to confirm the counsellor's beliefs about clinically significant improvement in clients. The skewness which is typical of IES distributions also makes this approach questionable.

Because of the limitations of these data mentioned above, it might be more appropriate to use the first of the above methods for detecting clinical change, i.e. to conclude that there has been clinically significant change if the client has had a shift in IES scores of at least two standard deviations from the base-line clinical mean.

The local norms presented here and the variety of previously derived norms presented in Table 1 underscore the need for ongoing normative IES studies if this instrument is to have good clinical utility in local contexts. The available normative data notwithstanding, the IES still has limited clinical utility in the diagnosis of PTSD in that it taps only the intrusive and avoidant aspects of PTSD. A revised version, the IES-R, appears to have greater clinical utility and it is this later version which is the subject of the next study.

2.2 Study 2: Determination of local norms and validity of the IES-R

Background and description of the IES-R

The Impact of Event Scale-Revised (IES-R; Weiss and Marmar, 1997) was developed for the purpose of tracking the psychological effects on emergency service workers of the Loma Prieta earthquake and other potentially traumatic events (Marmar, Weiss, Metzler, Ronfeldt & Foreman, 1996; Weiss, Marmar, Metzler & Ronfeldt, 1995).

Despite the substantial literature which has consistently demonstrated the reliability, validity and practical utility of the original IES in assessing and predicting post-traumatic symptoms and behaviour, the instrument has been limited by the fact that it assesses only the intrusive and avoidant symptoms of post-traumatic stress. The IES-R constitutes a refinement and development of the IES principally through the inclusion of a hyperarousal subscale and also by the inclusion of an additional subscale item. IES items and their equivalent IES-R items are shown in Table 13. (See Appendix 3 for the IES-R scale).

Table 13 IES and IES-R equivalent items and additional IES-R items

IES Intrusion subscale items	Equivalent IES-R Intrusion subscale items
1	6
4*	2
5	16
6	20
10	9
11	3
14	1
	14
n = 7	**n = 8**
IES Avoidance subscale items	**Equivalent IES-R Avoidance subscale items**
2	5
3	17
7	8
8	7
9	22
12	12
13	11
15	13
n = 8	**n = 8**
N = 15	
	IES-R Hyperarousal subscale items
	4
	10
	15
	18
	19
	21
	n = 6
	N = 22

The six additional hyperarousal items and the one additional intrusion item in the IES-R were randomly interspersed with the original IES items. Item 4 on the original IES intrusion subscale ('I had trouble falling asleep or staying asleep because of pictures or thoughts about it that came into my mind') is less than ideal as it contains two semantic stimulus elements and it is not clear what the individual is responding to. In addition, the element 'trouble falling asleep' seems to be more indicative of hyperarousal than of intrusion whereas 'trouble staying asleep' correlates more highly with the other intrusion items. In the IES-R this difficulty was overcome by allocating the two stimulus elements to different subscales. As a result, Item 2 in the IES-R ('I had trouble staying asleep') now replaces the original two-element intrusion Item 4 in the IES and 'I had trouble falling asleep' appears in the new hyperarousal subscale as IES-R Item 15.

The additional item to the IES-R intrusion subscale is Item 14 ('I found myself acting or feeling like I was back at that time'). This item assesses DSM-IV criterion B3.

Administration and scoring

To facilitate comparison between the IES and IES-R, Weiss and Marmar did not initially alter the IES-R directions and response format from that of the original IES and they also retained the 0-1-3-5 scoring scheme used by Horowitz et al., (1979). However, these authors have since recommended a change from Horowitz's frequency response directions ('Not at all', 'Rarely', 'Sometimes','Often') to intensity of being distressed by symptoms ('Not at all', 'A little bit', 'Moderately', 'Quite a bit', 'Extremely'). They further recommend that scoring be based on an equal interval rating scale (0-1-2-3-4) to facilitate comparison of symptom levels measured by the Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1994).

Psychometric properties of IES-R

Evidence to date suggests that like the IES, the IES-R has good internal consistency and stability across time. In an extensive study of the psychometric properties of the IES-R, Marmar et al., (1996) administered the instrument to emergency service personnel (firefighters, paramedics, emergency medical technicians, police and California highway department workers) subsequent to the 1989 Loma Prieta earthquake and the 1994 Northridge earthquake in the Los Angeles area.

Their total subject sample consisted of 189 respondents who had worked on the I-880 freeway collapse site (the I-880 sample), 140 controls who lived and worked in the San Francisco Bay Area but who had not been assigned to I-880 duty (the BAC sample), and 101 control emergency personnel from the San Diego area (the SDC sample).

The I-880 sample completed the IES-R anchored to the freeway collapse rescue operation. In the other two replication groups, workers anchored their responses to their most distressing critical incident other than a mass disaster or being the victim of an assault. Data from two IES-R assessments were recorded for each respondent.

A second group of respondents comprised 206 insurance company workers who had been affected by the 1994 Northridge earthquake in the Los Angeles area. The first set of questionnaires was administered six weeks after the earthquake, and the second after a delay of six months.

Analyses of internal consistency, test-retest reliability and item-to-scale correlations were carried out on the resulting data and are reported by Weiss and Marmar (1997). Table 14 is a summary of their findings.

Table 14 Internal consistency results on IES-R (Weiss & Marmar, 1997)

Sample	IES-R subscale	Coefficient alpha
Northridge sample (Time 1) (n=197)		
	Intrusion	.91
	Avoidance	.84
	Hyperarousal	.90
Northridge sample (Time 2) (n=175)		
	Intrusion	.92
	Avoidance	.85
	Hyperarousal	.89
I-880 sample (Time 1) (n=429 collapsed across 3 study groups)	Intrusion	.87
	Avoidance	.85
	Hyperarousal	.79
I-880 sample (Time 2) (n=317 collapsed across 3 study groups)	Intrusion	.87
	Avoidance	.86
	Hyperarousal	.79

Table 15 shows the IES-R test-retest reliability data reported by Weiss and Marmar (1997). These data were generated by the I-880 and Northridge samples.

Table 15 Stability of IES-R across time (Weiss & Marmar 1997)

Sample	IES-R subscale	Test-retest correlation
I-880 sample (Mean interval 18 months)		
	Intrusion	.57
	Avoidance	.51
	Hyperarousal	.59
Northridge sample (Interval 6 months)		
	Intrusion	.94
	Avoidance	.89
	Hyperarousal	.92

The larger test-retest reliability coefficients for the Northridge sample can reasonably be attributed to the shorter test-retest interval for this group and that the respondents in the Northridge sample were first assessed six weeks after the earthquake whereas the I-880 group was assessed 1.5 years after the 1989 earthquake. (The mean post-incident delays for the BAC and SDC groups were 3.3 years and 4.1 years respectively).

The item-to-subscale analyses computed by Weiss and colleagues demonstrated that only one of the twenty two IES-R items yielded an item-to-subscale correlation that was higher than it and a different subscale. This was Item 15 ('I had trouble falling asleep.') The corrected correlation of this item with its assigned hyperarousal subscale was .71 and .79 with the intrusion subscale. Of the remaining items, nineteen yielded assigned subscale correlations which were higher than those for the other two subscales and two yielded correlations that were equal to those for the other scales (Item 2 and Item 5).

The final result of the Weiss and Marmar analyses indicates that the IES-R is a reliable instrument with justifiable item to subscale allocation.

Interpretation of IES-R

Interpretation of IES-R scores is problematic in the absence of relevant local normative data. To address this difficulty, the present study set out to determine norms for the IES-R in the context of primary care settings at two London-based medical practices and, in this context, to also test the convergent and distinct-groups validity of the instrument.

2.2.1 The normative study

Method

IES-R responses from three groups of respondents were used for the normative study. The total sample consisted of a clinical PTSD group, a clinical non-PTSD group and a non-clinical group.

The two clinical groups responded to the IES-R as part of the standard pre-therapy intake questionnaire battery in use at the participating primary health care practices. Members of the non-clinical group were a sample of convenience drawn from a group of nurses, college students and other members of the public who agreed voluntarily to complete the questionnaires anonymously.

Respondents' IES-R Intrusion, Avoidance, Hyperarousal and Total scores were recorded and comparisons made of the respective means for each scale.

Participants

The PTSD clinical group (n=26) consisted of 19 female clients and 7 male clients (mean age 37.3 years; s.d. 9.5) who had been referred by their GPs following exposure to a potentially traumatic event and who had been diagnosed by their GPs as possibly suffering from PTSD. Respondents were only included in this group if a diagnosis of PTSD was also made by the psychologist according to DSM-IV criteria. The mean age of these respondents was 37.3 years (s.d. 9.5).

The events to which this group's IES-R responses were anchored were:

	n	%
Victim of road traffic accident	6	23.1
Victim of assault in public	4	15.4
Victim of domestic violence	4	15.4
Exposure to civilian bomb blast	1	3.8
House-fire caused by explosion	1	3.8
Sexual abuse (including rape)	4	15.4
Suicide of a close friend or relative	2	7.7
Accidental death of close friend or relative	3	11.5
Still-birth	1	3.8

The non-PTSD clinical group (n=32) comprised 20 female clients and 12 male clients. The mean age of this group was 33.6 years (s.d. 6.1). Members of this group had been referred by their GPs for counselling following presenting problems relating to:

symptoms of anxiety
symptoms of depression
relationship difficulties
work-related stress

Respondents were only included in this group if, on assessment interview, they clearly did not meet the DSM-IV PTSD diagnostic criteria. Like the PTSD group, this clinical group also completed the IES-R as part of the standard pre-counselling intake procedure. (The IES-R is routinely administered as clinical experience at these practices has shown that patients often do not relate their symptoms to a specific event and GP referrals are sometimes made on the basis of symptoms alone).

Respondents in this group were given a list of potentially traumatic events to which they might have been exposed and were asked to anchor their IES-R responses to a relevant event. If they had been exposed to more than one of the events, they were asked to choose the one event which in their opinion had had the worst impact on them. Regardless of whether or not this group had been exposed to any of the listed events, they were asked to state the worst thing that had ever happened to them and to use this event as an anchor for their responses.

The non-clinical group (n=36) consisted of 6 males and 30 females who agreed to participate voluntarily in the study. The mean age of this group was 36 years (s.d. 10.8). These respondents were asked to complete the battery of questionnaires anonymously and were informed that their responses would be used to determine typical scores for the IES-R and to evaluate the DAWS. To preserve anonymity, this group returned their completed forms in sealed envelopes. Like the clinical non-PTSD group, members of this sample were asked to choose the worst event to which they had been exposed and to anchor their IES-R responses to that event.

Instruments

The questionnaires used in this study were the Impact of Event Scale-Revised (IES-R), the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory (BDI-II).

The sets of questionnaires administered to the two clinical groups and the single non-clinical group differed only on the first page of instructions. Whereas the non-clinical group were instructed to complete the questionnaires anonymously and were informed that their responses would help evaluate the questionnaires, the members of the clinical groups wrote their names on the questionnaires and were informed that their responses would help the clinician determine an appropriate treatment plan.

Results

Preliminary data analysis revealed no significant differences between male and female respondents on any of the IES-R scales.

Summary normative data for all IES-R subscales and the total scale are shown in Table 16. Raw IES-R scores for the three samples are shown in Appendix 4.

Table 16 IES-R local norms for the non-clinical, non-PTSD clinical and PTSD samples

Scale	N	Mean	SD	SE	Median
Intrusion					
Non-clinical	36	7.31	6.89	1.15	5.5
Clin. non-PTSD	32	8.88	6.48	1.15	8.0
Clin. PTSD	26	16.38	7.57	1.48	15.0
Total sample	94	10.35	7.86	0.81	9.0
Avoidance					
Non-clinical	36	5.89	5.84	0.97	4.0
Clin. non-PTSD	32	7.47	6.35	1.12	8.0
Clin. PTSD	26	18.15	6.28	1.48	18.0
Total sample	94	9.82	8.01	0.83	9.0
Hyperarousal					
Non-clinical	36	2.31	2.76	0.46	1.5
Clin. non-PTSD	32	6.97	5.42	0.96	6.0
Clin. PTSD	26	12.85	7.03	1.38	12.5
Total sample	94	6.81	6.63	0.68	4.5
Total					
Non-clinical	36	15.50	13.27	2.21	12.5
Clin. non-PTSD	32	23.13	13.68	2.42	22.5
Clin. PTSD	26	47.39	13.74	2.70	48.0
Total sample	94	26.92	18.76	1.94	26.0

To determine whether the means of the three samples differed on each of the scale scores, analyses of variance were computed for each scale (ANOVA summary tables are shown in Appendix 5) and pair-wise between-group *post-hoc* comparisons made.

The Tukey-Kramer procedure was chosen for the comparisons as it incorporates Kramer's modification of Tukey's HSD procedure for cases with unequal numbers of subjects per cell. However, this procedure also assumes homogeneity of variance between groups and was therefore used only where this assumption

was met using Cochran's C as a criterion. In the case of heterogeneity of variance (i.e. the IES-R Hyperarousal scale), the Games-Howell procedure (Games & Howell, 1976) for pair-wise comparisons was used.

For the Intrusion subscale, the means of the non-clinical and clinical non-PTSD groups both differed significantly from that of the PTSD group ($F_{(2, 91)} = 13.9892$, $p < .0001$). The pair-wise comparisons were both significant at $p < .01$. No significant difference was observed between the respective means of the non-clinical sample and the clinical non-PTSD sample.

Similarly, for the avoidance subscale, the means of the non-clinical and clinical non-PTSD groups both differed significantly from that of the PTSD group ($F_{(2, 91)} = 33.7309$, $p < .0001$). The pair-wise comparisons were both significant at $p < .01$. No significant difference was observed between the respective means of the non-clinical sample and the clinical non-PTSD sample.

For the hyperarousal subscale, the means of the non-clinical and clinical non-PTSD groups both differed significantly from that of the PTSD group ($F_{(2, 91)} = 31.6645$, $p < .0001$). The pair-wise comparisons were both significant at $p < .01$. However, on this subscale the non-clinical sample and the clinical non-PTSD sample also differed from each other ($p < .01$).

The ANOVA computed for total IES-R scores also yielded significant between-group differences ($F_{(2, 91)} = 43.7442$, $p < .0001$). These differences were consistent with those of the Intrusion and Avoidance scales. The pair-wise comparisons indicated that the non-clinical and clinical non-PTSD samples both differed significantly from the PTSD sample ($p < .01$). The respective means of the non-clinical clinical non-PTSD samples did not differ significantly.

Descriptive data for the IES-R total sample (N=94) for each scale are shown in Table 17. Percentile charts for each scale are shown in Figures 1 to 4.

Table 17 Descriptive data for the IES-R total sample (N=94)

	Mean	SD	SE	Median	Skew	Kurtosis
Intrusion	10.35	7.86	0.81	9	.55	-.64
Avoidance	9.82	8.01	0.83	9	.62	-.47
Hyperarousal	6.1	6.63	0.68	4.5	.97	-.07
Total	26.92	18.76	1.94	26	.42	-.69

Fig.1 Percentiles for IESR-I

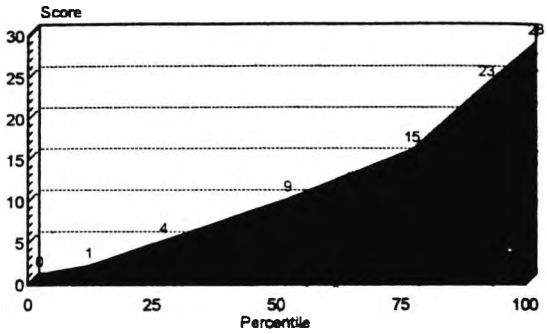


Fig.2 Percentiles for IESR-A

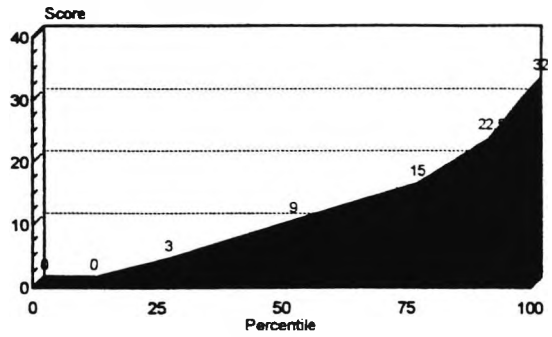


Fig.3 Percentiles for IESR-H

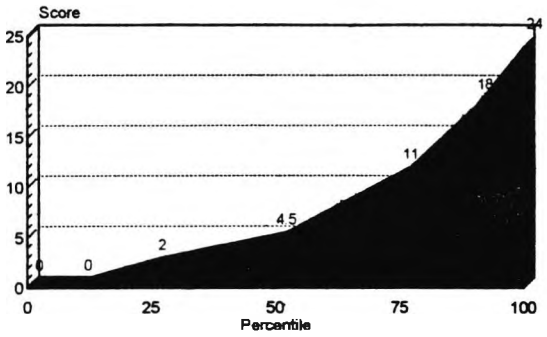
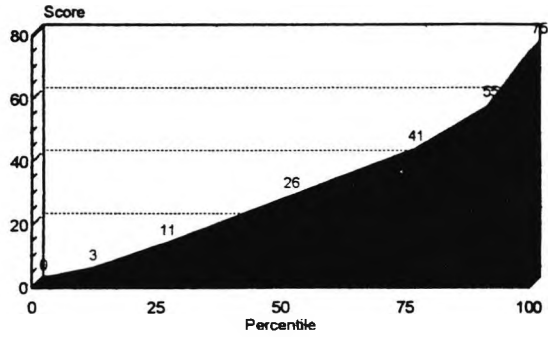


Fig.4 Percentiles for IESR-T



Figures 1 to 4. Percentile charts for IES-R Intrusion, Avoidance, Hyperarousal and Total scales

2.2.2 Convergent validity of the IES-R

To assess the validity of the IES-R, respondents' scores were correlated with their responses to the BAI and BDI-II scales. All the subscales and the total scale correlated significantly with the BAI and BDI-II scales. The three IES-R subscales also correlated significantly with each other. The observed correlation coefficients are shown in Table 18.

Table 18 **Correlations between IES-R scales, BAI and BDI-II**

	IES-R I	IES-R A	IES-R-H	IES-R Total
IES-R I	-	.50**	.61**	.85**
IES-R A	.50**	-	.50**	.81**
IES-R H	.61**	.50**	-	.82**
IES-R Total	.85**	.82**	.82**	-
BAI	.41**	.50**	.70**	.64**
BDI-II	.42**	.42**	.64**	.58**

** p<.01

Discussion

The IES-R has greater content coverage than the original IES scale by virtue of its having an additional autonomic arousal scale and an additional intrusion scale item. However, apart from the hyperarousal scale, it is unlikely to have psychometric properties which differ significantly from those of the original IES.

The significant correlations of the IES-R Hyperarousal subscale (H) with the other IES-R subscales suggest that insofar as consistency is concerned, the H scale is a legitimate extension of the original instrument.

To the extent that anxiety and depression are possible sequelae of post-traumatic stress, the significant correlations found between the IES-R subscales and BAI and BDI-II scores provide evidence of the convergent validity of the instrument.

Evidence of the IES-R having 'distinct-groups validity' (Schutte & Malouff, 1995, p.3) was provided by the IES-R yielding significantly higher scores on all scales in the PTSD group than in the clinical non-PTSD group and the non-clinical group which points to its utility as a screening tool for PTSD after, for example, a critical incident debriefing.

The only difference found between the non-clinical group and the clinical non-PTSD group on the IES-R was on the hyperarousal scale. To investigate this difference between the two non-PTSD groups further, their mean BAI and BDI-II scores were compared. The mean BAI score for the clinical non-PTSD group (16.22; s.d. 9.88) was significantly higher ($t = 4.42$; $p < .0001$) than that for the non-clinical group (7.22; s.d. 6.79). A similar difference was observed on BDI-II comparisons with the mean BDI-II score for the clinical non-PTSD group (19.91; s.d. 11.65) being significantly higher ($t = 5.14$; $p < .0001$) than that for the non-clinical group (8.67; s.d. 5.70). It is likely that these two (non-PTSD) groups differed on this dimension as the IES-R hyperarousal items tapped symptoms common to both anxiety and depression.

The means, standard deviations and percentile charts presented here for the IES-R allow for norm-referencing of scores. However, these norms should be used with caution. The data reflected in Table 17 for the total sample show that the distribution is positively skewed towards lowers scores on all scales. This along with evidence of negative kurtosis points to the non-normality of IES-R scores echoing the findings of Briere and Elliott (1998) in their IES study. Moreover, these norms are of a preliminary nature and are, of necessity, susceptible to revision as further work contributes to the IES-R data.

Regardless of the quality of available norms, high IES-R scores are not in themselves conclusive evidence of PTSD as the IES-R items do not exhaustively assess all the re-experiencing or avoidant symptoms of PTSD. It is also important to bear in mind that like the IES, the IES-R assesses symptoms over one week rather than the minimum one month of symptom duration specified by DSM-IV. It is therefore not a substitute for a rationally derived clinical interview designed to diagnose PTSD. However, the instrument can be used in clinical contexts as a preliminary screen for post-traumatic stress.

In the present study no significant sex differences were found on any of the IES-R scales, a finding consistent with that reported by Briere and Elliott (1997) for their general population study of the IES. These authors also found no overall differences on race. This suggests that with its limitations taken into account, the IES-R can be used for screening a wide range of individuals following a potentially traumatic event.

2.3 Study 3: The assessment of occupational distress: Development of a new scale for use in counselling contexts

2.3.1 Introduction

Clinically significant distress in occupational functioning is cited as one of the DSM-IV indicators of PTSD (Criterion F). Wilson and Keane (1997, p.430) note that "Many patients suffering from PTSD or a dissociative disorder have histories of dysfunction in both employment situations and interpersonal relationships because of their distorted cognitive skills and their emotional hyperreactivity". These authors cite Kluft (1994, p.122) who describes the result as "entrapment in a vicious cycle of maladaptive responses and behaviours."

Counsellors working in occupational and primary health care contexts frequently encounter such maladaptive responses. However, clinical experience also indicates that the workplace itself can be a hostile and stressful environment and the stressed client may need support in dealing with a dysfunctional working environment rather than his or her dysfunctional responses. Where the client is of practical necessity obliged to work in a stressful environment, it can be important in the context of therapy to monitor the client's level of stress so that there is appropriate containment of the client's anxiety and so that coping strategies can be addressed.

The Distress at Work Scale (DAWS) was developed to meet the need for an easily administered instrument which would not only be sensitive to levels of distress at work, but which would also be a useful adjunct to the IES-R in employed individuals who had been exposed to potentially traumatic events in the assessment of PTSD. This section presents a brief overview of instruments used in the assessment of stress reactions followed by a report on the development of the DAWS and its potential use in the assessment of PTSD.

2.3.2 The measurement of stress

Since the pioneering theory of stress proposed by Selye (1956) there has been copious research to examine various aspects of stress. Stress is a risk factor in both physical and mental illness, and several studies have been carried out in working populations. In general terms, stress has been conceptualised as a process of adjusting to circumstances which disrupt, or threaten to disrupt, an individual's equilibrium (Burchfield, 1979; Lazarus & Folkman, 1974; Selye, 1976). This conceptualisation makes for a distinction between stressors, events and situations to which organisms must adjust, and stress reactions, the physical, psychological and behavioural responses which organisms display when exposed to stressors.

A number of self-report measures for assessing stressors have been developed. Earliest among these were the Social Readjustment Rating Scale (SRRS; Holmes & Rahe, 1967) and the Daily Hassles and Uplifts Scales (Kanner et al., 1981). Research with the scales developed by Kanner and colleagues has indicated that the accuracy of predictions about the severity of a person's stress responses may be improved when based on hassles rather than solely on major stressors (DeLongis et al., 1982; Eckenrode, 1984; Monroe, 1983).

Later generic instruments for assessing stressors were the Short Form of the Questionnaire on Resources and Stress (QRS-F; Scott, Sexton & Thompson, 1989), the List of Threatening Experiences Questionnaire (LTE-Q; Brugha & Cragg, 1991), the Strain Questionnaire (Lefebvre & Sandford, 1985) and the Perceived Stress Questionnaire (PSQ; Levenstein et al., 1993). All these instruments have been found to have acceptable reliability and validity.

Occupational stressors and their assessment

In their review of occupational stressors, Davidson and Cooper (1981) listed the following categories of stressors:

Factors intrinsic to the job.

These factors include poor physical working conditions, shift work, work overload and underload, physical danger, person-environment fit and job satisfaction. There is evidence that shift-work affects blood temperature, metabolic rate, blood sugar levels, mental efficiency and work motivation (Selye, 1976; Cobb & Rose, 1973).

Role in the organisation.

Role-related stress involves role ambiguity (lack of clarity about the job) and role-conflict (conflicting job demands), as well as responsibility for people and conflicts stemming from organizational boundaries (Cooper & Marshall, 1976). Cooper & Marshall concluded that individuals employed in less physical occupations involving professional, managerial and clerical roles are more prone to occupational stress associated with role conflict.

Evidence that role ambiguity and conflict can result in stress-related illnesses such as chronic heart disease has been provided by French & Caplan (1972), Beehr, Walsh and Taber (1976) and Shirom et al. (1973).

Career development.

Cooper and Marshall (1976) list career development-related events as potential stressors. These include the impact of overpromotion, underpromotion, status incongruence, lack of job security and thwarted ambition.

Human relations at work.

This category includes the nature of relationships and social support from managers, peers and subordinates. French and Caplan (1972) have suggested that role ambiguity may precipitate poor relationships at work, which in turn may lead to psychological strain manifesting as low job satisfaction. There is evidence that high levels of social support from colleagues can relieve job strain and can attenuate the effects of job stress on blood pressure, glucose and cortisone and can help in the cessation of cigarette smoking (Caplan, Cobb, French, Harrison and Pinneau, 1980).

Organizational structure and climate.

This category of stressors includes factors such as office politics, lack of effective consultation, lack of effective participation in the decision-making process and restrictions on behaviour (Cooper & Marshall, 1976; Veno & Davidson, 1978). Evidence that greater participation in decision-making leads to improved performance, lower staff turn-over, higher productivity and reduced levels of physical and mental illness (French and Caplan, 1972; Margolis, Kroes and Quinn, 1974).

In addition to the categories of stressors stated by Davidson and Cooper, a study of Japanese workers by Araki and Kawakami (1993) cites lack of technical utilization, conflicts between job and other activities and technological development as potential occupational stressors.

A dedicated instrument for assessing stress in the workplace, the Work Stress Assessment questionnaire (WSA) has been found to have high construct validity and internal consistency (Hladky, 1984).

Examples of other reliable and valid self-report instruments for assessing stressors in specific occupational populations are the Speech-Language Pathologist Stress Inventory (SLPSI; Fimian, Lieberman & Fastenau, 1991), the Nurse Stress Checklist (NSC; Benoliel et al., 1990) and the Clinical Stress Questionnaire for nursing students (CSQ; Pagana, 1989).

The assessment of stress reactions

Reactions to stress include physiological, psychological and behavioural responses.

Physiological indices

There is an array of evidence demonstrating physiological stress responses. These include changes in blood pressure, cardiac output and coronary blood flow, autonomic nervous system reactions, hormonal responses of catecholamines in blood and urine, and immunological responses. For example, urine adrenaline levels and urine cortisol levels were found to be higher in inhabitants under chronic stress at Three-Mile Island (McKinnon et al., 1989), and Teshima et al.(1992) found that serum cortisol levels

were lower in individuals with low state and low trait anxiety. Theorell et al. (1990) reported increased imunoglobulin (IgG) levels with increased work stress.

Adsett et al. (1962) found that interviews evoking anger were associated with increases in coronary blood flow, systolic and diastolic blood pressure and peripheral resistance. Interviews which evoked feelings of anxiety were associated with increased coronary blood flow, cardiac output and systolic blood pressure.

Kawakami, Araki and Haratani (1992) found that job dissatisfaction in white collar workers correlated significantly with haemoglobin (HbA_{1c}) which is an index of blood sugar levels. In a study of blue collar workers, these researchers also found that stress due to working with complicated machinery was a significant predictor of increased diastolic blood pressure.

Whilst such measures of stress reactions are important in that they offer objective data for medical research, they are not readily obtained and are evidently impractical as an assessment instrument for the practising mental health clinician.

Behavioural indices

Behavioural indices of stress reactions has focused on objectively observable behaviours such as measures of absenteeism, decreases in working activities and changes in health practices such as cigarette smoking and alcohol consumption (Araki & Kawakami, 1993). Increased frequency of medical consultations has also been used as an index of stress (Kawakami et al., 1992).

Psychological indices

Research on psychological reactions to stressors has characteristically focused on anxiety and depression and, in the occupational domain, job satisfaction has been used as an index of occupational stress. The following is a non-exhaustive list of commonly used questionnaires for the assessment of psychological reactions to stress:

The Cornell Medical Index (Brodman et al., 1949)

The General Health Questionnaire (Goldberg, 1972)

The Zung Self-Rating Depression Scale (Zung, 1965)

Beck Depression Inventory (Beck et al., 1961; 1972; 1996)

Beck Anxiety Inventory (Beck et al., 1990)

Center for Epidemiological Studies Depression Scale (Radloff, 1977)

Manifest Anxiety Scale (Taylor, 1953)

Structured interview protocols such as the Structured Clinical Interview for DSM III-R (SCID; Spitzer et al., 1990) have also been used as indicators of stress disorders.

The Stress Check List (SCL-86) was developed by Nomura et al. (1992) for the assessment of both stressors and stress reactions in occupational contexts. This instrument comprises 112 items covering stressors as well as behavioural, psychological and somatic manifestations of stress responses.

The Free Association Test (FAT) was developed by Gottschalk and colleagues (1969a; 1969b; 1979) to measure stress through the content analysis of verbal behaviour. The FAT is widely used as an indicator of anxiety and hostility in psychotherapy patients and can be used for both children and adults. However, it is often impractical to use this instrument as it is time consuming and requires specialised training.

Similarly, the Psychological Stress Evaluator (PSE; Dektor CIS Inc., n.d.) has been used to measure stress responses such as anxiety and hostility through analysis of voice frequency modulations.

The assessment instruments cited vary in their range, focus and practicality and most have acceptable psychometric characteristics. However, none of them appeared to offer a brief and practical method for assessing distress at the workplace. It was against this background that the Distress at Work Scale (DAWS) was developed.

2.3.3 Development of the Distress at Work Scale (DAWS)

2.3.3.1 Design

Formulation of the DAWS blueprint

The first step in formulating the questionnaire blueprint was to re-examine clinical records of 111 individuals who had either been referred to the author by EAP providers or their GPs for work-related stress. These records spanned a four-year period (1995 to 1999). Records were analysed for clients' reports of work-related stressors and then compared with the categories cited above.

The work-related issues presented by the cases analysed are shown in Table 19. Many of these clients presented with more than one work-related problem.

Table 19 **Frequencies of work-related issues presented by 104 clients over a five-year period**

Stressor	Frequency
Factors intrinsic to the job	
1. Poor physical working conditions	2
2. Shift work	0
3. Work overload	23
4. Work underload	4
5. Physical danger	0
6. Person-environment fit	1
7. Job satisfaction	35
Role in the organisation	
8. Lack of clarity about the job	28
9. Conflicting job demands	16
10. Responsibility for people	2
11. Conflicts stemming from organizational boundaries	2
Career development	
12. Overpromotion	2
13. Underpromotion	3
14. Status incongruence	4
15. Lack of job security	4
16. Thwarted ambition	1
Human relations at work	
Relationships with (including bullying and harassment) and social support from:	
17. Managers	19
18. Peers	7
19. Subordinates	1
Organizational structure and climate	
20. Office politics	12
21. Lack of effective consultation	1
22. Lack of effective participation in the decision-making process	2
23. Restrictions on behaviour	2
24. Lack of technical utilization	0
25. Conflicts between job and other activities	2
26. Technological development	0

Qualitative analyses of these issues suggested that the specification of three domains in the blueprint matrix would cover the most frequently reported stressor areas whilst allowing for specific reported difficulties at work to be expressed as items. The three domains chosen were:

A. Task Performance

B. Relationships at work

C. Job satisfaction

To provide maximum coverage, the manifestations of reported difficulties were categorised as:

1. Cognitive
2. Affective
3. Behavioural

The resultant nine-cell matrix is shown in Figure 5, with content areas as columns and manifestations as rows.

Fig. 5 **DAWS (Version 1) matrix for item generation**

MANIFESTATIONS	CONTENT AREAS: TASK PERFORMANCE A	WORK RELATIONSHIPS B	JOB SATISFACTION C
I COGNIT	1 2 3 4 5 6 7	22 23 24 25 26 27 28	43 44 45 46 47 48 49
II AFFECT	8 9 10 11 12 13 14	29 30 31 32 33 34 35	50 51 52 53 54 55 56
III BEHAV	15 16 17 18 19 20 21	36 37 38 39 40 41 42	57 58 59 60 61 62 63

N = 63

On the basis of the cases analysed, 63 items were generated for the pilot version of the DAWS with seven items per cell. For ease of reference, these are listed below by cell to reflect their relationship with the matrix blueprint.

Respondents were asked to indicate by circling one of 0, 1, 2 or 3 for each statement as it applied to them over the their last week at work. The response options are:

0 = Not at all

1 = A little

2 = Quite a lot

3 = Very much

All items were scored in the same direction with a higher score indicating a greater level of distress.

COGNITIVE ASPECTS OF TASK PERFORMANCE

A1/1 I have been having difficulty understanding what is required of me at work.

A1/2 I have been having difficulty knowing how to go about my tasks at work.

A1/3 I have been having difficulty concentrating on my tasks.

A1/4 I have been having difficulty solving problems at work.

A1/5 I have been having difficulty making work-related decisions.

A1/6 I have been having difficulty setting goals for myself at work.

A1/7 I have been having difficulty organising myself at work.

AFFECTIVE ASPECTS OF TASK PERFORMANCE

A2/8 I have been feeling anxious about doing my job.

A2/9 I have been feeling frustrated in trying to do my job.

A2/10 I have been enjoying my job less than usual.

A2/11 I have been feeling tense at work.

A2/12 I have felt like crying at work.

A2/13 I have been worrying about work at night.

A2/14 I have been feeling incompetent at my job.

BEHAVIOURAL ASPECTS OF TASK PERFORMANCE

A3/15 I have been unable to do some of my tasks.

A3/16 I have been putting off performing some of my tasks.

A3/17 I have been making more mistakes than usual.

A3/18 I have been taking more unofficial breaks from work than usual.

A3/19 I have been working more slowly than usual.

A3/20 I have been performing my tasks less efficiently than usual.

A3/21 I have been falling short of meeting my work targets.

COGNITIVE ASPECTS OF RELATIONSHIPS AT WORK

B1/22 I have been thinking that I have been treated unfairly by management.

B1/23 I have been thinking that my manager dislikes me.

B1/24 I have been thinking that my manager has been unhelpful.

B1/25 I have been having difficulty in accepting negative feedback at work.

B1/26 I have been thinking that some of my colleagues dislike me.

B1/27 I have been thinking that some of my peers have been unhelpful.

B1/28 I have been thinking that some of my peers at work judge me unfairly.

AFFECTIVE ASPECTS OF RELATIONSHIPS AT WORK

B2/29 I have been feeling rejected by my peers at work.

B2/30 I have been feeling humiliated at work.

B2/31 I have been feeling unsupported at work.

B2/32 I have been feeling envious towards some of my colleagues.

B2/33 I have been feeling persecuted at work.

B2/34 I have been feeling angry with some of my colleagues.

B2/35 I have been feeling irritable with my colleagues.

BEHAVIOURAL ASPECTS OF RELATIONSHIPS AT WORK

B3/36 I have been clashing with management.

B3/37 I have been avoiding addressing issues with management.

B3/38 I have been avoiding some of my colleagues.

B3/39 I have been arguing more than usual with some of my peers at work.

B3/40 I haven't been getting on well lately with certain colleagues.

B3/41 I have been finding it difficult to be assertive with my colleagues.

B3/42 I have been finding it difficult to accept authority.

COGNITIVE ASPECTS OF JOB SATISFACTION

C1/43 I haven't been feeling stretched enough by my job.

C1/44 My abilities haven't been put to good use at work.

C1/45 My self-esteem at work has been low.

C1/46 My job has been too difficult for me.

C1/47 I have been thinking about looking for another job.

C1/48 I have been feeling less interested in my job than usual.

C1/49 I have been thinking that my job isn't worthwhile.

AFFECTIVE ASPECTS OF JOB SATISFACTION

C2/50 I have been finding my job less fulfilling than usual.

C2/51 I have been feeling overwhelmed by my job.

C2/52 I have been feeling less motivated than usual to do my job.

C2/53 I have been getting less satisfaction than usual from my job.

C2/54 I have been feeling frustrated about my job.

C2/55 I have been dreading going into work.

C2/56 I haven't been feeling valued by others at work.

BEHAVIOURAL ASPECTS OF JOB SATISFACTION

C3/57 I have been looking for another job.

C3/58 I have been doing as little as possible at work.

C3/59 I have been speaking negatively about my job.

C3/60 I have been speaking negatively about my colleagues.

C3/61 I have been complaining more than usual about my job.

C3/62 I have been getting into work later than usual.

C3/63 I have been unable to go into work.

2.3.3.2 The pilot study

Method

The 63-item version of the DAWS (Version 1) was administered to a sample of 67 employed respondents drawn from both clinical and non-clinical populations.

Respondents

The clinical sample comprised 25 patients who were referred for counselling by their GPs and who completed the DAWS (Version 1) when it was administered as part of the intake assessment protocol immediately after their first session. This clinical sample consisted of 17 males and 8 females. Their mean age was 29 years (Range 22 to 55). As with the other components of the test battery, the clinical respondents were given qualitative feedback on the questionnaire. However, because the DAWS was still in its pilot form, norm-referencing was not possible and feedback consisted of drawing clients' attention to items marked 2 ('Quite a lot') and 3 ('Very much') for further discussion.

The non-clinical sample consisted of 19 male and 23 female respondents drawn from the public and private employment sectors who agreed to participate in the study. Their mean age was 32 years (Range 27 to 52). These respondents were asked to complete the form anonymously and were informed that the questionnaire was in the process of being developed and that their responses would assist in refining the questionnaire.

Results of the pilot study

Raw questionnaire scores from the pilot questionnaire were entered into a 63 item x 67 respondent grid using GB-STAT (Dynamic Microsystems Inc., 1998) software. (See Appendix 6 for raw scores).

Three values were computed for each item: The adjusted item-total correlation (r), the facility value (P) and the item variance. These values are shown in Table 20. An asterisk in the last column indicates that the item was retained following the item analysis.

Table 20 **Results of item analysis for DAWS (Version 1)**

Cell Ref.	Item No.	Adjusted r	P	Item Variance	Retained Item = *
A1	1	.51	.48	.80	
A1	2	.62	.55	.83	*
A1	3	.60	1.27	1.05	*
A1	4	.61	.76	.67	
A1	5	.68	.62	.69	
A1	6	.85	.85	.89	*
A1	7	.92	.92	1.10	*
A2	8	.66	1.00	1.36	*
A2	9	.64	1.43	1.19	
A2	10	.75	1.28	1.39	*
A2	11	.72	1.42	1.13	*
A2	12	.52	.76	1.34	
A2	13	.75	1.06	1.24	*
A2	14	.76	.79	1.26	*
A3	15	.44	.49	.53	
A3	16	.54	1.07	1.01	*
A3	17	.41	.45	.40	
A3	18	.46	.72	.87	
A3	19	.41	.81	1.04	
A3	20	.69	.64	.78	*
A3	21	.54	.70	.73	*
B1	22	.50	.99	1.23	*
B1	23	.70	.55	.83	*
B1	24	.55	.76	.97	*
B1	25	.53	.49	.68	
B1	26	.66	.85	1.04	*
B1	27	.59	.90	.91	
B1	28	.50	.55	.65	
B2	29	.58	.46	.56	
B2	30	.63	.45	.71	*
B2	31	.66	.96	1.10	*
B2	32	.44	.49	.71	
B2	33	.58	.40	.70	*
B2	34	.61	.90	.85	*
B2	35	.53	1.13	.91	*
B3	36	.45	.40	.58	
B3	37	.61	.52	.74	*
B3	38	.56	.58	.76	
B3	39	.34	.27	.29	
B3	40	.65	.64	.96	*
B3	41	.59	.73	.96	*
B3	42	.49	.51	.89	

Table 20 (continued)

C1	43	.41	1.15	1.34	
C1	44	.61	1.33	1.53	
C1	45	.83	1.22	1.42	*
C1	46	.45	.22	.33	
C1	47	.64	1.58	1.55	*
C1	48	.72	1.19	1.49	*
C1	49	.69	1.04	1.53	*
C2	50	.56	1.35	1.36	
C2	51	.53	.85	1.16	
C2	52	.75	1.44	1.28	*
C2	53	.64	1.45	1.34	*
C2	54	.77	1.43	1.22	*
C2	55	.80	1.01	1.53	*
C2	56	.77	0.93	1.28	*
C3	57	.54	.98	1.41	*
C3	58	.50	.45	.65	
C3	59	.62	.96	1.26	*
C3	60	.60	.79	.80	
C3	61	.66	.87	1.06	*
C3	62	.55	.40	.61	
C3	63	.21	.12	.20	

Item selection

Three statistical selection filters were used for determining the inclusion of items in the final version of the DAWS (DAWS Version 2). The first filter was the facility or P value of the item. Since items are scored from 0 through to 3, it was necessary to ensure that no included item had a P value at extreme ends of the scale, i.e. 0 or 3. The minimum P value of included items was 0.40 and the maximum was 1.58.

The second filter was the adjusted item-total correlation, *r*, of each item. The minimum *r* value of included items was .50 and the maximum was .92.

Item variances were also checked to ensure that included items contributed acceptably to the total variance. The minimum item variance value for included items was .70 and the maximum 1.55.

The final result of the analysis yielded a 36-item questionnaire (See Appendix 7) with a minimum of three items and a maximum of five items per cell. Each content area (task performance, work relationships and job satisfaction) was tapped by its own twelve items. On the manifestation axis, twelve items tapped cognitive aspects, fifteen tapped affective aspects and nine tapped behavioural aspects of the content areas. This configuration is shown in Figure 6.

Fig. 6 **DAWS (Version 2) item matrix**

Original DAWS Version 1 item numbers are shown in each cell

CONTENT AREAS

MANIFESTATIONS	TASK PERFORMANCE **A**	WORK RELATIONSHIPS **B**	JOB SATISFACTION **C**	
I COGNIT	2, 3, 6, 7	22, 23, 24, 26	45, 47, 48, 49	(12)
II AFFECT	8, 10, 11, 13, 14	30, 31, 33, 34, 35	52, 53, 54, 55, 56	(15)
III BEHAV	16, 20, 21	37, 40, 41	57, 59, 61	(9)
	(12)	(12)	(12)	N = 36

The order of the 36-item DAWS (Version 2) questionnaire items was then randomized. The final version is shown in Appendix 7.

2.3.3.3 Determination of psychometric properties

The following measures of reliability and validity were evaluated: internal consistency, test-retest stability and concurrent, convergent and discriminant validity.

Internal consistency

Method

Respondents

Data were used from the same 67 respondents who had participated in the pilot study.

Procedure

Following the item-analysis described above, respondents' individual item scores for each of the retained items were extracted from the pilot data to enable an evaluation of Version 2 of the DAWS. Cronbach's alpha was determined by Hoyt's analysis, a completely random item by case analysis of variance which partitions the variance due to items and cases relative to the total variability. In terms of this procedure, reliability is defined as the proportion of error variance to the total obtained variance subtracted from 1.

Results

Cronbach's alpha was computed as .97 indicating good internal consistency of the scale.
(See Appendix 8 for ANOVA summary table).

Stability (test-retest reliability)

Method

Respondents

Data from three sub-samples (N=51) were recorded for the stability study.
The first sub-sample (n=29) resulted from the DAWS being sent to 41 employed NHS clients prior to their first session. Of these referred clients, 34 completed and returned the DAWS prior to their first session and responded to the DAWS again at the end of their initial assessment session. Five of these 34 respondents had either changed employers or had been on holiday and their scores were therefore not included in the stability study.

The second sub-sample (n=8) was made up of private sector (i.e. non-NHS referred) clients who agreed to respond to the DAWS on two occasions.

A third sub-sample (n=14) consisted of a group of NHS health workers (non-clients) who agreed to participate in the study for the purpose of developing the instrument.

The total sample consisted of 15 males and 36 females (N = 51). The mean age of the sample was 35.23 years (Range: 25 to 63 years).

Procedure

The DAWS (Version 2) post-pilot questionnaire was administered to respondents on two occasions at intervals varying from one to two weeks.

Results

Raw data from Time 1 and Time 2 are shown in Appendix 9. A coefficient of reliability was determined by correlating the two sets of scores by means of Pearson's product moment correlation coefficient. The resulting stability coefficient was 0.94 ($p<.01$)

Validity studies

Method

Respondents

Seventy respondents participated in the validity studies. The total sample comprised 53 females and 17 males (N=70). The mean age of the total sample was 35.6 years (S.D.=8.9; Range 24 to 63 years). All respondents were in full-time employment and were drawn from client and non-client populations. The client sub-sample consisted of 6 male and 15 female clients (n=21) diagnosed as having PTSD by virtue of meeting the relevant DSM-IV diagnostic criteria. The non-client sub-sample comprised voluntary respondents employed in the public and private sectors and consisted of 11 male respondents and 38 female respondents (n=49).

Other psychometric instruments used

Validity of the DAWS was determined by co-administering the following scales:

Impact of Event Scale-Revised (IES-R; Weiss & Marmar, 1997)

Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996)

Beck Anxiety Inventory (BAI; Beck & Steer, 1988)

Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1967)

The DAWS and IES-R are described in the preceding sections.

The BDI-II is a 21-item self-report instrument for the assessment of depressive symptoms corresponding to the DSM-IV (1994) criteria for diagnosing depressive disorders. The items are rated on a 4-point scale (0-3). The possible score range is from 0 to 63.

The BDI-II has been found to have good reliability, across several different clinical populations (Beck, Steer, & Garbin, 1988; Steer, Beck, & Garrison, 1986). Coefficient alpha for an outpatient group (N=500) was .92 and for college students (N=120) it was found to be .93. In a study of 26 outpatients who responded to the BDI-II at their first and second therapy sessions over an interval of one week, test-retest stability was .93 with no significant difference in mean scores found between the first and second administrations.

The BDI-II has also been shown to have good convergent validity. Beck, Steer, & Brown (1996) report a correlation of .93 between the BDI-II and BDI-IA, an earlier version of the instrument. These authors also report a correlation of .68 ($p<.001$) between the BDI-II and the Beck Hopelessness Scale (BHS; Beck & Steer, 1988) and a correlation of .37 ($p<.001$) with the Scale for Suicide ideation (SSI; Beck, Kovacs, & Weissman, 1979).

Evidence of the discriminant validity of the BDI-II is indicated by the authors finding that the BDI-II was more positively correlated (.71) with the Hamilton Psychiatric Rating Scale for depression (HRSD; Hamilton, 1960) than it was with the Hamilton Rating Scale for Anxiety (.47) (HARS; Hamilton, 1959).

The BAI is a 21-item self-report instrument designed to assess the overall level of anxiety experienced by an individual over the preceding week. The items are rated on a 4-point scale (0-3) with a possible score range from 0 to 63.

Reliability of the BAI has been found to be high. Beck, Epstein, Brown and Steer (1988) reported Cronbach's coefficient alpha of 0.92, and Fydrich et al. (1990) reported an alpha coefficient of 0.94, indicating sound internal consistency. Beck, Rush, Shaw, & Emery (1979) also found good test-retest reliability of the instrument over a one-week interval ($r=.75$; $p<.001$).

Concurrent validity of the BAI has been found to be acceptable over a number of studies. For example, Beck et al. (1998) found that BAI scores correlated significantly with the HARS-R ($r=.51$; $p<.001$) and the Cognition Check List (CCL-A; Beck, Brown, Steer, Eidelson, & Riskind, 1987), which assesses the frequency of dysfunctional cognitions related to anxiety ($r=.51$; $p<.001$). Fydrich et al., (1990) found significant correlations between BAI scores and scores for the State-Trait Anxiety Inventory (STAI; Spielberger, 1983); (STAI Trait: $r= .58$; $p<.001$; STAI State: $r=.47$; $p<.001$), and between the BAI and mean 7-day anxiety rating for the Weekly Record of Anxiety and Depression (WRAD; Barlow & Cerny, 1988) ($r=.54$; $p<.001$).

Construct validity of the BAI is predicated on the observation that measures of anxiety and depression tend to be correlated (Gotlib & Cane, 1989). Beck et al. (1988) found a low but significant correlation ($r=.25$; $p<.05$) between the BAI and the Hamilton Psychiatric Rating Scale for Depression-Revised (HRSD-R; Hamilton, 1960), but a higher correlation ($r=.48$; $p<.001$) between BAI and BDI scores. Dent and Salkovskis (1986) found significant correlations between the BAI and the BDI ($r=.61$; $p<.001$) and with the Maudsley Obsessional Compulsive Inventory (MOC; Hodgson & Rachman, 1977) ($r=.41$; $p<.001$).

There is evidence that the BAI has acceptable discriminant validity. Beck et al. (1988) found that patients with panic disorders had significantly higher BAI scores than those with generalized anxiety or social phobia disorders, but found no significant differences in BAI scores in patients with obsessional compulsive disorders, generalized anxiety disorder, social phobia and panic disorders with and without agoraphobia. Further evidence of the discriminant validity of the BAI was provided by Dent and Salkovskis (1986), who found that the mean BAI scores of three UK non-clinical samples was approximately half of those reported by Fydrich et al. (1990).

The EPI measures two dimensions of personality, extroversion and neuroticism. There are two parallel forms of the instrument, Form A and Form B each of which consists of 57 items covering extroversion (24 items), neuroticism (24 items) and a 'Lie scale' (9 items).

Test-retest reliability of the EPI is in excess of 0.85 even over intervals of several months (Eysenck & Eysenck, 1964). Evidence of the validity of the EPI has also been provided. Using the method of nominated groups, Eysenck (1962) showed that when independent judges identified extraverted or introverted and neurotic or stable individuals who were then asked to fill in the EPI, there were consistently clear and predictable differences on the scales between the respective groups.

Procedure

The client group filled in the DAWS along with the standard client intake questionnaire battery (the IES-R, BDI-II and BAI) either prior to or at the end of their first assessment session and completed the EPI at the end of subsequent sessions.

Members of the non-client group were asked to complete the questionnaires anonymously and to return them in a sealed envelope. A covering explanatory note stated that the purpose of the exercise was to study the relationship between the questionnaires using a sample of respondents rather than to assess the respondents themselves.

For the client sub-sample, GP appraisals (as specified on referral forms) and self-report data obtained during the assessment interview as to whether or not clients felt severe adverse stress at work were recorded dichotomously (0 = not stressed; 1 = stressed). Similar self-report data were obtained from the non-client group who were asked whether or not they were currently finding their jobs stressful.

Results

Raw data for the validity studies are shown in Appendix 10.

Concurrent validity

Some evidence of the concurrent validity of the DAWS was obtained by comparing the DAWS scores of the self-reported 'stressed' and 'non-stressed' groups. The mean DAWS score of the 'stressed' group (N=28) was 58.21 (SD 13.99) and the mean score of the 'non-stressed' group (N= 42) was 17.19 (SD 9.50). The means of these two groups differed significantly ($t=14.63$, $p < 0.0001$).

Because there is an underlying continuity to the dichotomized variable of 'stressed' versus 'unstressed' (coded as 1 and 0 respectively), an attempt was made to assess the correlation between self-report stressed/unstressed ratings and DAWS scores, a continuous variable, using the biserial correlation, r_b. However, this approach proved problematic as the r_b coefficient exceeded 1, a problem frequently encountered with the biserial coefficient when one of the variables sampled violates assumptions of normality such as being platykurtic (McNemar, 1962). Under such circumstances the point-biserial coefficient, r_{pb}, is preferable (Howell, 1987). The point-biserial correlation between the self-report dichotomous data and respondents' DAWS scores was 0.87 ($p < .01$).

Convergent validity

To provide evidence of the convergent validity of the DAWS it was necessary to demonstrate adequate correlations with other instruments with which it shares the overlapping construct of stress. DAWS scores were therefore correlated with BAI, BDI-II and IES-R scores. DAWS scores correlated .68 ($p < .01$) with the BAI and .71 ($p < .01$) with the BDI-II. Since PTSD can be associated with impairment in occupational functioning (cf. DSM-IV, p.429) and as the IES-R was developed for the assessment of PTSD, DAWS scores were also correlated with IES-R scores for the combined case and non-case sample . Moderate but statistically significant ($p < .01$) correlations ranging from .34 to .57 were obtained between the DAWS and the IES-R scales suggesting further evidence of convergent validity. These correlations are summarized in Table 21.

Discriminant validity

To evaluate discriminant validity of the DAWS, the EPI Extroversion subscale was correlated with DAWS scores as there was no *a priori* reason why this personality factor should be related to either occupational or post-traumatic stress. The resulting correlation coefficient was .01 (n.s.).

Table 21 **Correlations of the DAWS and other scales administered**

Instrument	r	Significance
BAI	.68	p<.01
BDI-II	.71	p<.01
IES-R Intrusion	.36	p<.01
IES-R Avoidance	.35	p<.01
IES-R Hyperarousal	.57	p<.01
IES-R Total	.49	p<.01
EPI Extroversion	.01	n.s.

Interpretation of the DAWS

The means and standard deviations of the self-reported 'stressed' and non-stressed groups are shown in Table 22 and may be used for assessing whether clients' scores fall within these two distributions.

Table 22 **DAWS scores for the stressed and non-stressed samples**

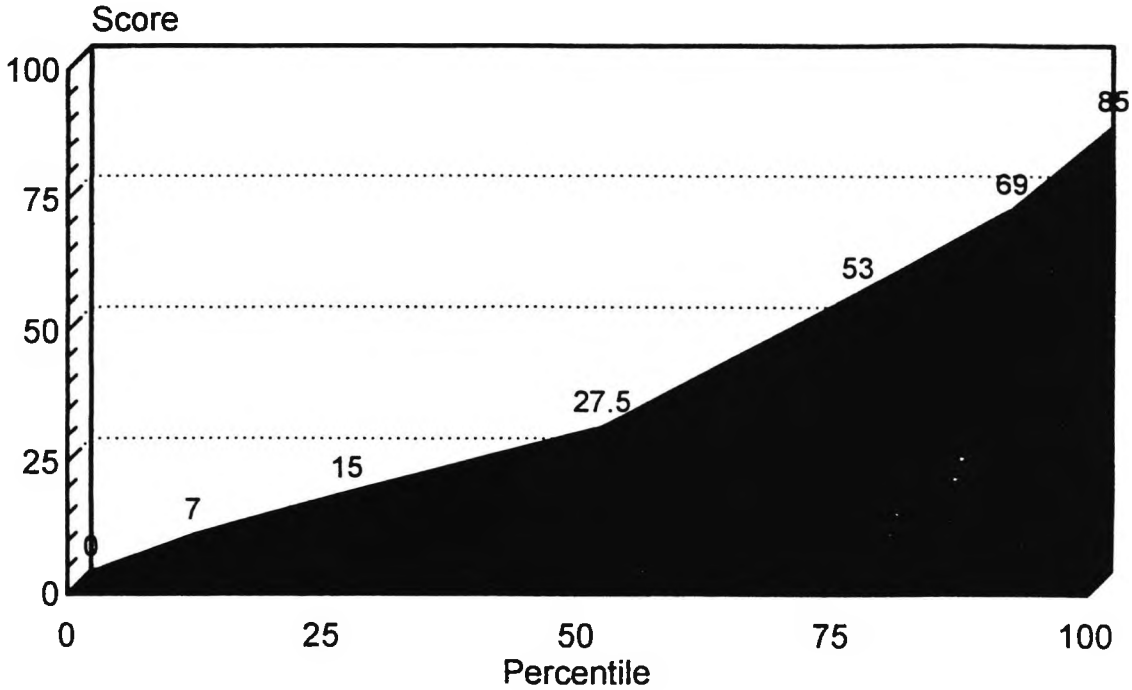
Sample	N	Mean	SD
Stressed	28	58.21	13.99
Non-stressed	42	17.19	9.50
Total sample	70	33.60	23.24

Percentiles derived from the present DAWS data are shown in Table 23 and are reflected in Figure 7.

Table 23 **DAWS percentiles**

Score	Percentile
71	95th
69	90th
53	75th
28	50th
15	25th
7	10th
4	5th

Fig. 7 **DAWS Percentile Scores**



Clinically significant change can be determined through a number of methods (Jacobson & Truax, 1991). If a cut-off point method is chosen for determining clinically significant change on the DAWS, then a score of 34 derived from the means and standard deviations in Table 22 is suggested. Clients scoring at or above this point might be assessed as falling into the occupationally stressed population. Those moving to below the cut-off after counselling might be deemed clinically improved in this respect. (Other method of assessing clinical change based on clinical and non-clinical population norms are outlined on page 46).

2.3.3.4 Discussion

The DAWS was developed to provide a relatively brief and easily administered means of assessing clients' levels of occupational distress. Preliminary assessments of the instrument's psychometric properties suggest that it is reliable.

The acceptably high positive correlations between the DAWS scores and the BAI and BDI-II provide initial evidence that the scale has good convergent validity. This finding is consistent with previous studies which have validated stress reactions against measures of anxiety and depression. For example, validation of the Perceived Stress Questionnaire (PSQ; Levenstein et al., 1992) was conducted by comparison with the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1983) and the Centre for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). By way of comparison, it is of interest that the PSQ correlations with the STAI-State scale were .30 (n.s.; N=24) and .75 ($p<.001$;

N=24) for the STAI-State and STAI-Trait Scales respectively. This suggests that the validation instruments used for the DAWS were of a type consistent with published research.

The significant positive correlations of the DAWS with the IES-R Intrusion and Hyperarousal scale scores is further evidence of its convergent (and hence, indirectly, construct) validity. It seems reasonable to argue that the painful affective component of the cognitive 'network' (Lang, 1977; Lang, 1979; Creamer et al. 1992) which enters working memory when the network is activated would be experienced as anxiety or fear, and that if such intrusive thoughts and images are activated in the workplace, distress would be high. The significant positive correlation between the DAWS and IES-R Total scores is also encouraging as it suggests that the DAWS may be useful as an adjunct to the IES-R in assessing occupational distress following a traumatic event.

The preliminary data generated by this study allow for norm-referenced interpretation of the DAWS. However, further normative studies across different populations are necessary.

In addition to the accumulation of normative data, further work remains to be carried out on the DAWS in relation to its sensitivity to counselling and pharmacotherapeutic interventions. Predictive validity of the DAWS also needs to be evaluated. This might be done by examining the relationship of base-line DAWS scores to a clinical rating of end-point improvement such as the Clinical Global Impressions Improvement scale (CGI; Guy, 1976).

The DAWS is a new instrument and, as such, is in an ongoing state of development. Further normative data are in the process of being collected and the instrument is currently in use in three GP practices as an initial screening tool. At the very minimum, the layout of the DAWS questionnaire enables the counsellor to form a rapid visual profile of the client's areas of difficulty at work even before the form is scored. Feedback from the counsellor to the client on the form can serve as a helpful stimulus for getting more reticent or inarticulate clients to disclose their thoughts and feelings in relation to work. Used more formally, the DAWS has the potential to offer evidence of clinically significant change when used as an adjunct to the interpersonal qualitative information obtained by the counsellor during therapy sessions. The DAWS seems to be a potentially useful instrument for counsellors as well as referers such as GPs and EAP providers wishing to monitor client progress and outcomes where occupational distress is a salient feature of the presenting problem.

SECTION C: TEACHING CASE STUDY

CRITICAL INCIDENT DEBRIEFING AS A PREVENTATIVE INTERVENTION AND ASSESSMENT PROCESS: AN ANDRAGOGICAL APPROACH TO THE CONTINUING PROFESSIONAL DEVELOPMENT OF COUNSELLORS AND COUNSELLING PSYCHOLOGISTS

SECTION C TEACHING CASE STUDY

Critical incident debriefing as a preventative intervention and assessment process: An andragogical approach to the continuing professional development of counsellors and counselling psychologists

1 Introduction

1.1 Context of the case study

The overriding aim of this doctoral submission is to make a practical and usable contribution to the field of assessment in counselling psychology. In keeping with the general theme of assessment, the following case study focuses on a training programme for counsellors which presents critical incident debriefing not only as a preventative intervention, but also as an assessment procedure for detecting post-traumatic stress in those participating in debriefing sessions.

1.2 Background to and justification for the course

It is generally accepted amongst mental health professionals that people exposed to life-threatening events may subsequently develop severe psychological reactions (Canterbury and Yule, 1999). In addition to major disasters, in civilian contexts, post-traumatic reactions are commonly observed following everyday events such as road-traffic accidents (Mayou, Bryant and Duthie, 1993) and violent crime (Taylor, 1989). In the U.K., where such incidents have occurred in occupational contexts, there has been an increasing demand for critical incident debriefings by employers wishing to take due care of their employees' mental health, resulting in Employee Assistance Programme (EAP) providers having to meet this demand and train their counsellors appropriately.

In response to this demand, the course presented in this case study was commissioned by an EAP provider and was first presented in May 1999 as a voluntary one-day training programme for counsellors wishing to engage in continuing professional development. It has since been modified for use in the training of counsellors and counselling psychologists working in both EAP and NHS contexts.

The pilot course was heavily oversubscribed with 50% of applicants being refused places. This reflects the perception of need amongst counsellors themselves for training in this area. None of those attending had received training in debriefing procedures as part of their formal post-graduate or professional training.

The efficacy of the critical incident debriefing is a matter of some contention as outcome studies have been equivocal. At its best, the debriefing may offer the individual an opportunity for containment of

anxiety and an opportunity to process material relating to the incident. At its worst, the debriefing may restimulate traumatic material without allowing further processing. For this reason the course was designed to provide not only training in debriefing skills, but also in the basic knowledge and skills relevant to the assessment of trauma so that appropriate intervention or onward referral can be made without undue delay.

1.3 Aims and objectives

Aims

The aim of the course was to develop trainees' theoretical understanding and practical skills for the safe and effective conduct of a debriefing following a critical incident.

Objectives

By the end of the course trainees should:

(a) have a theoretically grounded awareness of critical incident debriefing and its relationship to trauma

(b) be aware of the nature and potential impact of critical incidents

(c) be able to relate theory to practice in the conduct of debriefings

(d) be aware of the hazards and limitations of critical incident debriefing

(e) be able to assess the traumatic impact of critical incidents on individuals

(f) be aware of the need for appropriate onward referral following debriefing

2 Methodological considerations

The course as Human Resource Development and Adult Education

Although human resource development (HRD) and adult education (AE) overlap in that both domains are concerned with *adult learning*, they differ in the primary focus of their goals. Whereas HRD is a subsystem of an organization which is primarily concerned with the strategic goals of the organization, AE is primarily concerned with the personal goals of the individual. This distinction becomes evident in terms of control. When the organization sets the requirements for outcomes and learning processes, adult learning can be construed as HRD. When it is the individual who determines learning processes and outcomes, adult learning can be seen as AE. Where control is overtly and formally shared, the learning process is both AE and HRD (Swanson and Arnold, 1996).

This course was originally developed in response to a request by an EAP provider to develop its full-time and affiliate personnel, and the content and training methods used were largely prescribed by the commissioning organization. As such it lies within an HRD context. However, because participants attended voluntarily with a view to developing their professional skills, the course could also be

construed as lying within an AE framework. Because of this HRD/AE context, the guiding didactic philosophy was andragogical rather than pedagogical.

The andragogical perspective

van Enckevort (1971) has traced original use of the term 'Andragogik' (Andragogy) to Alexander Kapp, a German grammar school teacher who used it in 1833 to describe the educational theory of Plato. The term was subsequently used in 1921 by the German social scientist, Eugen Rosenstock, who believed that adult education required special teachers and methods as well as a special philosophy. Use of the term increased in Europe during the 1950s and 1960s, and Americans were introduced to the term in 1967 by a Yugoslavian educator, Dusan Savicevic. (Knowles, Holton and Swanson, 1998).

In contradistinction to pedagogy, an educational orientation to the teaching of children, the andragogical model focuses on the education of adults. Whereas the pedagogical model is an essentially subject-centered ideology, the andragogical model is a system of assumptions which also includes certain pedagogical assumptions. Knowles et al., (1998) present andragogy as a set of core adult learning principles which applies to all adult learning situations and is based on a set of six fundamental principles. Whilst there is some direct empirical support for some of these principles, others are supported by theoretical models of adult learning. The principles and the educational arguments supporting them are presented below. Their relationship to the course is addressed in the discussion section of this case study.

Premise 1: Adults need to know why they need to learn something before undertaking to learn it.

Tough (1979) found that when adults undertake to learn something on their own, they make an effort to look into the benefits they will gain from learning it and the negative consequences of not learning it.

A number of studies support the andragogical assumption that adults need information about how learning is to be conducted, what is to be learned and why the learning is necessary.

It is generally accepted amongst adult education professionals that for effective learning to take place, adults should have some control over the planning of their learning. This seems to be valid even in learning situations in which the learning content is prescribed. Engaging adults as collaborative partners for learning satisfies their 'need to know' and appeals to their self-concepts as independent learners. Research based on the premise that mutual planning has a positive effect on learning has addressed three dimensions of the 'need to know': the need to know *how* learning will be conducted, *what* learning will occur, and *why* learning is important (Knowles et al., 1998, p.133).

Tannenbaum et al., (1991) focused on the question of *how* learning is conducted in a group of new employees to examine the extent to which training fulfilment predicted post-training attitudes. Training fulfilment was defined as the extent to which training met or fulfilled the group's expectations or desires. The results of this study showed that training fulfilment was related to post-training organizational commitment, academic self-efficacy, physical self-efficacy and motivation to use the training. The positive results were strongest for commitment and motivation to use training. These findings point to the importance of understanding trainees' expectations and desires through needs assessment and mutual planning.

Hicks and Klimoski (1987) studied a group of managers attending training on performance appraisals. The group that received a more realistic preview of what topics would be covered and the expected outcomes and were given a choice about whether to attend the training were more likely to believe the workshop was appropriate for them, believed they were better able to profit from the workshop, showed more commitment to their decision to attend the training, and were more satisfied with the learning. Participants with a high degree of choice were more motivated to learn and learned more.

Baldwin, Magjuka and Loher (1991) tested the proposition that trainee involvement in planning about learning would enhance the learning process. Their findings reinforce the importance of choice about learning. Trainees who had a choice about attending training, and received their choice, had higher pre-training motivation and learning than those who did not.

Addressing the dimension of *why* learning is important to trainees, Clark, Dobbins and Ladd (1993) studied fifteen training groups across twelve different organizations representing a wide variety of organizational types and training topics. Their results showed that job and career utility were significant predictors of training motivation. When employees had the chance to provide input into the training decision, they were more likely to perceive job and career utility.

Premise 2: Adults maintain the concept of responsibility for their own decisions and their own lives. An assumption made at least in Western society, is that adults have a self-concept of being responsible for their own decisions and lives. This self-concept gives rise to a psychological need to be seen and treated by others as being capable of self-direction. Adults seem to resist situations in which they feel others are imposing their wills on them. When a trainer/adult educator puts adults in a situation of total dependency, this can create a conflict between early conditioning for dependency through school experiences and an adult need for autonomy and self-direction. The anxiety generated by this conflict can lead to a desire to escape from the learning situation.

There are two conceptions of self-directed learning (Brookfield, 1986 and Candy, 1991). Firstly, self-directed learning is seen as self-teaching, whereby learners are capable of taking control of the mechanics and techniques of teaching themselves in a particular subject. Secondly, self-directed learning is conceived of as personal autonomy, manifested through the learner taking control of the goals and purposes of learning and assuming ownership of learning. The resulting change of consciousness enables the learner to see knowledge as contextual and to freely question what is learned.

Although they may overlap, these two dimensions of self-directed learning are relatively independent. A person may have a high degree of personal autonomy, but may choose to learn in a highly teacher-directed instructional setting because of convenience, speed or learning style. Many adults see traditional instruction as the best approach when they know little about the subject. However, this choice does not mean that the person has given up ownership or control. Conversely, just because an adult engages in self-teaching does not mean that the person is completely autonomous. This is evident where the trainer or commissioning organization sets all the requirements.

Premise 3: Adults enter the educational activity with a greater volume and more varied experiences than do children.

Because an adult's identity is largely grounded in his or her experience, any adult learning situation in which the learner's experiences are devalued or ignored may be perceived by the learner as personal rejection. Therefore it is important to acknowledge the value of trainees' previous training and experience.

When adults enter an educational activity, they bring with them a greater and more varied range of life experiences than do younger learners. These quantitative and qualitative group differences point to the learners themselves often being the richest resources for learning. Approaches to learning that draw on the experience of the learners such as group discussion, simulation exercises and problem-solving activities are more likely to facilitate adult learning than the mere transmission of information.

However, there is a negative aspect to the greater experience of adults. Decades of prior learning lead to the development of assumptions, biases and habits which can inhibit new ways of thinking and cause resistance to new ways of thinking and behaving. Argyris (1982) and Schon (1987) have addressed the difficulties of overcoming the natural tendency to resist new learning that challenges existing mental schemas from prior experience. Argyris (1982) conceptualises learning as either 'single loop' or 'double loop'. Single-loop learning is learning that fits prior experiences and existing values, which enables the learner to respond in an automatic way. Double-loop learning is learning that does not fit the learner's

prior experiences or schemas and typically requires learners to change their mental schemas in a fundamental way.

In similar vein, Schon (1987) refers to 'knowing-in-action' and 'reflection-in-action'. Knowing-in-action refer to the somewhat automatic responses based on our existing mental schemas which enable us to perform efficiently in daily actions. Reflection-in-action is the process of reflecting while performing to discover when existing schemas are no longer appropriate, and changing these schemas when appropriate. The most effective practitioners and learners are those who are good at reflection-in-action and double-loop learning.

There is growing recognition from multiple disciplines that adults' experiences have an important impact on the learning process. Although adult learners' experiences can be a valuable resource for learning if the new knowledge is presented in such a way that it can be related to existing knowledge and mental models, the same mental models can become barriers to new learning when the new learning challenges them. Thus, the unlearning process becomes as important as the learning process when new learning significantly challenges existing schemas. Kurt Lewin (1951) refers to three stages: 'unfreezing', 'change' and 're-freezing'. From this perspective, individuals cannot be expected to change unless attention is first paid to unfreezing them from their existing beliefs and perspectives. Thus people will not engage in double-loop learning until they are unfrozen from existing mental models. Kolb (1984) sees learning as a continuous process grounded in experience, meaning that all learning can be seen as relearning. This seems to be especially relevant to adults because of their relatively extensive life-experience.

Premise 4: Adults have a readiness to learn those things that they need to know in order to cope effectively with real-life situations.

Adults become ready to learn those things they need to know and be able to do in order to cope effectively with real life situations. Over life-time development, readiness to learn is determined by maturational factors and environmental contingencies. In occupational and professional learning contexts such readiness can be induced, for example, through intellectual arguments, exposure to models of superior performance and simulation exercises.

Adults generally become ready to learn when their life situation creates a need to know. Pratt (1988) has proposed a model of how adults' life situations not only affect their readiness to learn, but also their readiness for andragogical-type learning situations. He recognizes that most learning situations are highly situational, and that a learner may exhibit very different behaviours in different learning situations. For example, it is entirely likely that a learner may be highly confident and self-directed in one realm of learning, but very unsure in another.

Pratt identified two core dimensions within which adults vary in each learning situation: *direction* and *support*. Some learners may need direction in the mechanics or logistics of learning, while others need emotional support. Support refers to the affective encouragement the learner needs from others and is the product of two factors: the learner's *commitment* to the learning process and the learner's *confidence* about his/her learning ability. Thus learners who are very highly committed and confident will need less support. Conversely, those who have low commitment and low confidence will need more support.

Adults who have high competence in the subject matter and low general need for dependence will be much more independent as learners than those who have little competence and prefer dependency. Even adults who have low general dependence may need direction in the early stages of learning new subject matter in which they have little competence.

Although Pratt's model has not been formally tested, it provides a helpful theoretical perspective to account for some of the variability that learning facilitators encounter in any group of adult learners. It addresses changes in learners' needs as they move through the learning process and the challenges for facilitators are to recognize where individual learners are at the beginning of a learning experience and to be aware of changes in needs for direction and support during the learning experience.

Premise 5: Adults are life-centered in their orientation to learning.

In contrast to younger learners' subject-centered orientation to learning in school, adults are life-centered, task-centered or problem centered. Adults are motivated to learn to the extent that they perceive that learning will help them perform tasks or deal with problems that they confront in their life situations.

The role of current experiences is closely related to the role of prior experience in determining the need to learn. Knowles et al. (1998) stress that adults generally prefer a problem-solving orientation to learning, rather than subject-centered learning and that they learn best when new information is presented in real-life contexts. As a result, the experiential approach to learning has become established in adult learning practice.

Kolb has been a leader in advancing the practice of experiential learning. He defines learning as: "The process whereby knowledge is created through transformation of experience." (Kolb, 1984, p.38). For Kolb, learning is primarily about the reciprocal transformation of content and experience rather than the acquisition or transmission of content. According to Kolb, the educator's job is not only to transmit or implant new ideas, but also to modify old ones that may get in the way of new ones.

Kolb based his model of experiential learning on Lewin's problem-solving model of action research, which is widely used in organizational development (Cummings and Worley, 1997). Kolb posits four steps in the experiential learning cycle:

1. *Concrete experience* - full involvement in new here-and-now experiences.
2. *Observations and reflections*- reflection on and observation of the learner's experiences from many perspectives.
3. *Formation of abstract concepts and generalization* - creation of concepts that integrate the learners' observations into logically sound theories.
4. *Testing implications of new concepts in new situations*- using these theories to make decisions and solve problems.

Kolb's model has made a major contribution to the experiential learning literature by (a) providing a theoretical basis for experiential learning research and (b) providing a practical model for experiential learning practice. The four steps of his model have utility as a framework for designing learning experiences for adults.

Human resource practitioners increasingly emphasise experiential learning as a means to improve performance (Swanson, 1996). Action reflection learning is one technique developed to focus on learners' experiences and integrate experience into the learning process (ARL *Inquiry*, 1996). Transfer of learning researchers also focus on experiential learning as a means to enhance transfer of learning into performance (Holton, Bates, Seyler and Carvalho, 1997; Bates, Holton and Seyler, 1997) and to increase motivation to learn (Seyler, Holton and Bates, 1997). Structured on-the-job training (Jacobs and Jones, 1995) has emerged as a core method to more systematically capitalize on the value of experiential learning in organizations and as a tool to more effectively develop new employees through the use of experienced co-workers (Holton, 1996). Experiential learning approaches have the advantage of appealing to the adult learner's experience as well as increasing the likelihood of performance change after training.

Premise 6: Adults are more responsive to internal motivators than external motivators.

Whilst adults are responsive to some external motivators such as increased income and promotion, the most potent motivators are internal. These include increased job satisfaction, self-esteem and quality of life. Tough (1979) suggests that all normal adults are motivated to keep growing and developing, but this motivation is frequently blocked by such barriers as negative self-concept as a student, inaccessibility of opportunities or resources, time constraints, and programmes that violate principles of adult learning.

The andragogical model of adult learning makes some fundamental assumptions about what motivates adults to learn. Adults tend to be more motivated towards learning that helps them solve problems in their

lives or results in intrinsic rewards. This does not mean that they are uninfluenced by extrinsic motivators such as salary, but rather that internal need satisfaction is the more powerful motivator.

This claim is quite consistent with expectancy theory (Vroom, 1995), a theory of adult motivation in the workplace. Expectancy theory posits that an individual's motivation is the sum of three factors:

1. *Valence* -the value a person places on the outcome.
2. *Instrumentality*- the probability that the valued outcomes will be received given that certain outcomes have occurred.
3. *Expectancy* - the belief a person has that certain effort will lead to outcomes that get rewarded.

In terms of learning, adult learners will be most motivated when they believe they can learn the new material (expectancy) and that the learning will help them with a problem or issue (instrumentality) that is important in their lives (valence).

2.1 Course design

The blue-print for the course was based on two principal dimensions: methodology and content. These two dimensions ultimately determined the timing of the training programme.

Given the HRD/AE nature of the course, design was guided by andragogical principles. The principle of *the need to know* was reflected in participants' voluntary participation and was also raised into consciousness by the currently equivocal research findings relating to critical incident debriefing. The principle of respecting *the learners' self-concept* was reflected through a respectful attitude on the part of the trainer towards the trainees' experience both as autonomous practitioners and learners with a capacity for self-direction via learner input through discussion. *The role of the learners' experience* was viewed as a gate-keeper to the acquisition of new skills and knowledge with both the facilitating and inhibiting aspects of prior experience acknowledged in the acquisition of new learning. Although all participants had demonstrated their *readiness to learn* by virtue of their voluntary attendance on the course, the intention was to stimulate this via modelling and simulation exercises. Trainees' *life-centered orientation to learning* was demonstrated in their perception that the course would help them perform professional tasks more effectively in the context of actual debriefings in their professional lives. The issue of *internal motivation* was addressed by offering trainees an opportunity to increase their job-satisfaction and professional self-esteem through the acquisition of new and career relevant skills.

Course content was determined not only by the demand for the course, but also by a need for a critical and cautious approach to critical incident debriefing and the need to train potential debriefers in a way that would reduce the risk of inappropriate interventions and increase the utility of the debriefing as a diagnostic procedure.

The efficacy of critical incident debriefing viewed as a therapeutic or preventative intervention is controversial. The outcome studies cited in Section 4.4. of the training manual are evidence of this. Those defending debriefings often claim with some justification that the studies are not directly comparable as they address different debriefing procedures with different population groups and, since most are not based on randomised well-controlled trials, it is too early to take a firm position either for or against debriefings. However, a case can be made in favour of the critical incident debriefing as an assessment procedure. The informed debriefer will, by monitoring the responses of individuals within the debriefing group, be able to detect symptoms of PTSD. If the group debriefing is followed immediately by one-to-one assessment of participants, the debriefer will then be able to run a brief diagnostic check on the individuals concerned and will at least be able to refer those individuals on for specialised counselling. This presupposes that the debriefer has a sound knowledge of post-traumatic stress and assessment procedures relating to it. The course was therefore designed with the above considerations in mind.

2.1.1 The course manual

The course manual is included under Appendix 11. Following introductory comments in Part 1, Part 2 of the course presents theoretical perspectives on PTSD whilst Part 3 introduces Critical Incident Stress Debriefing CISD against this background so that trainees are able to carry out the CISD procedure from an informed theoretical perspective rather than blindly following a prescribed procedure. Part 4 is dedicated to the development of practical debriefing skills and contains vignettes as stimulus material for role-play debriefings, and Part 5 addresses the assessment of post-traumatic stress.

To facilitate reading, references in the course manual are numerical and are listed at the end of the manual. These references are also listed alphabetically under the main reference section.

2.1.2 Timing

In its pilot version, the course was originally designed for delivery over one day (7 hours, including breaks) to 20 trainees. Following feedback from trainees, the course was developed for delivery over two days (14 hours) to no more than 14 trainees. The time allocations for the one-day and two-day versions of the course are shown under Appendices 12 and 13 respectively.

3. Assessment of trainees

Assessment of trainees was criterion-referenced. By the end of the course trainees were required to demonstrate the following competencies:

1. Trainee can effectively introduce the debriefing session and deal with relevant queries.
2. Trainee can conduct the debriefing procedure effectively.
3. Trainee can carry out a post-debriefing one-to-one assessment session.
4. Trainee is able to administer and interpret the Impact of Event Scale using available norms.

(This fourth component was not included in the pilot version of the course but was included for subsequent assessments on the two-day version of the course).

In the pilot course, assessment of trainees consisted of observation by the trainer/s and members of the host organization's management team as participants role-played debriefing procedures in groups of three or four. All those who attended to the end of the pilot course (18/19) were deemed to have met the minimal levels of competence required.

4. Evaluation of the course by trainees

Following presentation of the pilot version of the course, trainees were asked to respond anonymously to a feedback questionnaire with a view to improvement and development of the course for subsequent training. Of the 19 attenders at the pilot presentation, 15 responded to the feedback questionnaire (79% response rate). The questionnaires (See Appendix 14) were analysed in terms of:

(a) The course manual

(b) The trainer

(c) Meeting of objectives

(d) The training facilities

The course manual was assessed in terms of three dimensions: Coverage, clarity and relevance. Each of these dimensions was rated on a four-point subscale (0-3) yielding a minimum of 0 and a maximum of 9.

The trainer was assessed in terms of two dimensions: Teaching style and clarity. Both of these dimensions were rated on a four-point subscale (0-3) yielding a minimum of 0 and a maximum of 6.

Meeting of the training objectives was assessed in terms of a single dimension: The degree to which the stated training objectives were met. The responses to this item were converted to a three-point subscale (0-2) yielding a minimum of 0 and a maximum of 2.

The training facilities were assessed in terms of a single dimension: Quality of the facilities. The responses to this item were converted to a four-point subscale (0-3) yielding a minimum of 0 and a maximum of 3.

The maximum number of points that any single questionnaire could generate was 20. This is the sum of the maximum number of points for each of the four aspects of the course, (a), (b), (c) and (d) listed above. Course evaluation results are summarised in Table 24.

Table 24 Analysis of course evaluation by pilot cohort

Trainees	**Course Manual**			**Trainer**		**Objectives**	**Facilities**	
(N=15)	**Coverage**	**Clarity**	**Relevance**	**Style**	**Clarity**	**Extent met**	**Standard**	**Total**
T 1	3	3	3	3	3	2	1	18
T 2	3	3	3	3	3	2	1	18
T 3	2	2	2	3	3	1	1	13
T 4	2	2	2	3	2	1	2	15
T 5	3	3	2	3	3	2	2	18
T 6	1	1	2	1	3	1	1	8
T 7	2	2	2	3	1	2	1	15
T 8	3	2	2	2	3	1	2	13
T 9	3	3	3	3	2	2	2	19
T10	3	3	3	3	3	1	3	19
T11	3	3	3	3	3	2	3	20
T12	3	3	3	3	3	2	3	20
T13	3	3	3	3	3	2	2	19
T14	3	3	3	2	2	2	2	17
T15	3	3	3	1	1	2	2	15
Sum:	39	39	39	39	38	25	28	247
Max:	45	45	45	45	45	30	45	300
Mean:	**2.6**	**2.6**	**2.6**	**2.6**	**2.5**	**1.7**	**1.9**	**16.47**
Max.:	3.0	3.0	3.0	3.0	3.0	2.0	3.0	20.00
Min.:	0	0	0	0	0	0	0	0

Examination of mean ratings for aspects of the course suggests that, overall, trainee satisfaction with the pilot course was high. These ratings were borne out by the qualitative comments appearing on the feedback questionnaires (Appendix 3) as well as by personal communications fed back to the trainer by the organization's director and management.

Analysis of the qualitative feedback given in the spaces provided in the questionnaire indicated that what had detracted from the pilot version of the course was insufficient allocation of time for role-play of the debriefing simulation sessions. As a result, not all the trainees had time to practice their debriefing skills and receive appropriate feedback from the trainer. This deficiency was remedied in the second version of the course by extending the course over two days, having a smaller intake group and, where possible, having two observers giving ongoing feedback during debriefing simulation sessions.

5. Discussion

The pilot version of the course was well-received, and the resulting feedback was used for course development. Changes reflected in the second version of the course comprised:

(a) more extensive coverage of the major psychological paradigms addressing trauma;

(b) increased allocation of time for participants to practice their debriefing and assessment skills;

(c) additions to manual of micro-group discussion points and the allocation of time for such discussion breaks in the programme.

These changes were in keeping with andragogical best practice and contributed to the high levels of satisfaction reported by subsequent trainees.

The underlying design philosophy behind the course was andragogical rather than pedagogic, and as far as it was practicable, the andragogical bias was maintained. From the outset, trainees had to be aware of the 'need to know', and an argument was made for the value of the material in improving the effectiveness of their performance in critical incident debriefing situations. In addition, the case for offering the course was made against the background of many of the participants' experience of a gap between their professional skills and the demands that had been placed on them when requested to undertake critical incident debriefings.

Participants were self-directing to the extent that they had undertaken to attend the course voluntarily. However, their autonomy was limited to the extent that the trainer and commissioning organization set the requirements for learning and desirable outcomes. As this course was presented in HRD contexts, it would of necessity have to ensure that the host organization's performance improvement needs were met. Trainees were not consulted prior to the course about the planning of course content. They were, however, advised of the course content prior to enrolment and to this extent they were presented with a basis for

making an informed decision as to whether they would attend. Inevitably this led to some adaptation and compromise of the core andragogical principles and this had to be accepted by both trainer and trainees. Knowles et al., (1998, p.123) state: "Effective application of adult learning principles in HRD requires practitioners to be come comfortable with, and even embrace, the tension between adult learning and performance principles". Judging by the positive way in which the course was received, this tension was clearly also accepted by participants.

The varied experience and training backgrounds of the trainees were respected. This was reflected by the due coverage given to the different approaches to trauma described in the course manual. It was deemed necessary to present these different approaches as trainees came from a variety of training backgrounds and their different training experiences could serve as 'scaffolding' for new learning on the one hand whilst inhibiting it if trainees felt that their previous training paradigms were being dismissed by the cognitive bias of the course. A further challenge was to get trainees who were not familiar with qualitative assessment to engage with the psychometric component at a practical level. For the most part, this challenge was met and trainees felt empowered by the assessment tools they had acquired.

Trainees demonstrated their readiness to learn as the course was of clear relevance to their professional practice. In terms of learning materials, the life-centered nature of the training vignettes and the psychometric exercises proved helpful and motivating.

Within the context of this course, the stages of Kolb's model were translated into the following learning and teaching strategies: *Concrete experience* was offered by demonstration and simulation of critical incident debriefings via role-play. *Observation and reflection* was induced through small group discussion. *Abstract conceptualization* was encouraged by getting trainees to relate the process of critical incident debriefing to a theory of trauma. *Active experimentation* was provided by means of practice sessions and offers of on-the-job experience as an observer on actual future debriefings run by trained debriefers.

Internal motivation of trainees was high. In terms of expectancy theory (Vroom, 1995), trainees believed that they were capable of learning the new material (expectancy) and that the learning would help them with with their professional practice in terms of providing them with debriefing skills (instrumentality) which was clearly of importance in their professional lives (valence).

As with many adult learning situations, application of the andragogical model had to be limited. Although the assumptions of the andragogical model are different from those of the pedagogical model, the two approaches are not antithetical. Knowles et al. (1998, p.69) acknowledge that although many elementary,

secondary school and college teachers have reported that under certain circumstances their students seemed to learn better when some features of the andragogical model were applied, other teachers and trainers have described situations in which they found that the andragogical model did not work. The implication of this is that educators and trainers need to assess which assumptions are realistic in a given situation. It is quite common for a pedagogical assumption to be useful and appropriate in an adult learning situation. This might occur, for example, when adult learners have no previous experience of a content area, or when they do not understand the relevance of a content area to their tasks or problems and when they feel no internal need to learn the material.

In the context of the present course it was necessary for both the theoretical input and the psychometric component to be mainly trainer-centred in the pedagogical tradition in that most of the trainees had no prior knowledge or experience of these areas. In addition, some of the trainees, needed convincing of the relevance of a quantitative approach to the assessment of trauma and were, at first, quite resistant to this.

The most challenging aspect of this course was the tension felt by the trainer concerning the controversial outcome findings on critical incident debriefing. From an HRD perspective, the organization that commissioned the course had a right to prescribe the objectives of the course and, because of its desire to ensure quality standards in the service it offered its corporate clients, it offered its affiliate counsellors free training in the delivery of one of its services, critical incident debriefing. However, for ethical reasons the trainer felt it necessary to go beyond the brief of simply teaching a procedure and introduced a critical component to the course in which existing outcome findings were summarised. (See course manual Appendix 11; Section 4.4). This raised fundamental questions regarding the efficacy and potential hazards of the critical incident debriefing. The procedure was also linked to the process model described by Creamer et al., (1992) which implies that the cognitive network which the debriefing would activate might result in painful re-experiencing of the event for those being debriefed without the necessary desensitization taking place.

From the perspective of the trainer some resolution of this problem was achieved by presenting the debriefing as an assessment procedure in which distressed participants could be identified and offered appropriate individual trauma therapy. The attention of trainees was also drawn to the need to have trained trauma therapists available at the site of the debriefing and that they should ensure that this would be available prior to undertaking a group debriefing whilst bearing in mind that this might mean increased cost to the service provider. This point appeared to be well received by representatives of the organisation who attended the training.

SECTION D: LITERATURE REVIEW

THE ASSESSMENT OF TRAUMATIC IMPACT ON COUPLES, FAMILIES AND CHILDREN

SECTION D LITERATURE REVIEW

The assessment of traumatic impact on couples, families and children

1 Introduction

Whereas the research component of this submission focused on the assessment of trauma and its sequelae in the individual adult, the current review focuses on two related but significantly different aspects of assessment. The first point of departure is the assessment of traumatic reactions in couples and families and the assessment of the 'ripple effect' which traumatized individuals may have on their families. Contemporary and transgenerational aspects are outlined, and family assessment procedures discussed. The second point of departure addresses issues relating to the assessment of traumatic reactions in children.

2 Family systems theory and the impact of traumatic events on relationships

One aim of this review is to outline the major theoretical orientations to traumatic stress in relation to families from an applied perspective. Findings on the effects of PTSD on couples and families are first outlined and then followed by a review of assessment techniques relevant to the assessment and treatment of families exposed to potentially traumatic events.

To date most of the research on PTSD has been carried out on individuals exposed to potentially traumatic events (Green, 1993). However, the interest of family systems theorists in the effects of stressful events on the family group predates early DSM III (APA, 1980) diagnostic formulations of PTSD (e.g. Hansen & Hill, 1964). In comparison with the proliferation of theory and research into the effects of trauma on individuals, the amount of research by family systems theorists appears to be relatively limited. However, the theoretical perspectives which have evolved have been influential in shaping post-traumatic family assessment and therapy (e.g. Stanton & Figley, 1978; Figley, 1983, 1985, 1989; McCubbin & McCubbin, 1989; Craine, Hanks, & Stevens, 1992).

According to dynamic systems theory, when either an individual member of a family unit or the entire family is traumatised, the effect will be an initial disequilibrium in the existing family structure which may lead to crises of coping and adaptation (Lewis, 1986; Figley, 1989). Family theorists believe that although exposure to stress is an inherent part of family existence and that most families adapt reasonably well to stressors, extreme stressors may result in adaptational failures which in themselves increase the negative stress-loading of the group (Hobfoll & Spielberger, 1992). If these assumptions hold, then there is a need for practitioners to understand the family dynamics resulting from trauma and, through appropriate assessment, to determine what interventions might facilitate adaptive family responses.

From a theoretical perspective, family stress theory (e.g. Boss, 1987) claims that traumatic stress will lead to 'role ambiguity' between partners. Expectations and role performances are affected, and the associated affective dysregulation, a feature of the post-traumatic syndrome, interferes with the communication of both positive and negative affective states.

The literature on marital systems (e.g. Greenberg & Johnson, 1988; Gottman, 1991) strongly suggests that the satisfaction of couples is contingent on affective communication. When this diminishes, the regulation of roles and expectations is harder to maintain thereby perpetuating a cycle of conflict, avoidance and isolation which further destabilises the relationship. Anxiety in both partners will be perpetuated when negative states such as hostility, withdrawal and confusion come into conflict with partners having their needs met for nurturance, affection and support.

Wilson & Kurtz (1997) suggest that families affected by PTSD are typically characterised by cyclical patterns of instability and role dysregulation and the associated states of depression and hyperarousal. Dysfunctional coping strategies such as alcohol abuse are also associated with these families.

2.1 Research findings on the effects of trauma on marital subsystems

Empirical research into the effects of PTSD on marriage and families with American Vietnam war veterans (Carroll, Foy, Cannon, & Zweller, 1991; Harkness, 1993) has provided evidence of the adverse effects of PTSD on bonding within couples relationships. These studies showed that amongst the most frequently reported difficulties were constricted intimacy and expressiveness including minimal self-disclosure (Carroll et al., 1991), unpredictable outbursts of verbal and physical aggression as well as global maladjustment manifesting as general dissatisfaction and recurrent crises (Carroll, Rueger, Foy and Donahue, 1985; Silver & Iacono, 1986; Solomon Mikulincer, Fried & Wosner, 1987).

Although the literature on the effects of rape trauma on couples and families has largely been of a descriptive nature (Miller, Williams, & Bernstein, 1982; Ochberg, 1988), the reports seem to parallel the findings of research into combat veterans in that they indicates a high risk potential for negative consequences within dyadic relationships. Following a rape, couples generally reported difficulties in affective expression, commitment, emotional support, sexual relations and communication. Other negatively affected areas which have been assessed are decision making, world view, self-esteem (Wilson & Kurtz, 1997) and conflict resolution (Nichols, 1988).

2.2 The effects of family exposure to traumatic events

The few studies which have examined the effects of exposure by whole families to potentially traumatic events have yielded mixed findings.

Ben-David and Levee (1992) interviewed 66 families who had been exposed to ongoing threat of SCUD missile attack during 1991 Persian Gulf War and assessed the families on three dimensions:
(a) emotional atmosphere, (b) family modes of organization and (c) interactional style. They found considerable variability in the amount of positive and negative affect as well as coping styles between different families. Whilst in some families the high levels of expressed anxiety (emotional atmosphere) rendered other family functions subordinate, other families were able to maintain their basic functionality. There was also diversity in role assignment (modes of organization) with some families showing less clarity about their members' functions than others. The families also varied in the quality and quantity of emotional communication between members (emotional atmosphere).

Baum, Gatchel and Schaeffer (1983) investigated the impact of exposure to toxic chemical and hazardous disasters on families and found that members reported feelings of loss of control, helplessness and powerlessness.

In their review of disaster studies, Wilson and Raphael (1993) found that families involved generally experienced increased levels of anxiety, depression and demoralization along with more specific PTSD symptoms such as avoidant behaviour and hyperarousal.

The convergent evidence supports the hypothesis that under conditions of extreme threat, families experience affective dysregulation and its associated consequences. These findings parallel the findings of research into families with one member having PTSD. Carroll et al., (1991) found that families with a member suffering from PTSD manifested processes of minimal communication, overt hostility and difficulties with emotional support.

From the perspective of family systems theory it is important to identify and assess not only dysfunctional processes, but also positive coping resources (Walsh, 1993). Family adaptability, the group's ability to change its responses, and family integration manifested as affection and support were identified as major resources in Angell's (1936) study of families coping with the Great Depression in the 1930s.

2.3 Transgenerational effects of trauma

A major assumption of transgenerational family therapists is that the effect of traumatic stress is passed along at least three generations. The claim is that trauma affects family organization (Lewis, 1986), family life-cycle development (Carter & McGoldrick, 1989) and relational patterns within the family (e.g. Kerr & Bowen, 1988).

There is debate amongst theorists and clinicians about whether the psychological and behavioural sequelae of trauma are passed on from one generation to the next. Empirical findings in this respect have been equivocal. There is evidence that children of Nazi Holocaust survivors have been adversely influenced by the traumatic experiences of their parents (e.g. Krystal, 1968; Rakoff, Segal & Epstein, 1965; Segal, Silver & Rakoff, 1973; Danieli; 1993). However, other studies comparing children of Holocaust survivors with control groups have not found significant difference between the groups in the incidence of pathology (e.g. Leon, et al., 1981; Rose & Garseke, 1987; Klein-Parker, 1988).

In a review of several studies, Harkness (1993) concluded that children of violence-prone Vietnam veterans with PTSD are a high-risk group. Moreover, Figley & Sprenkle (1978) have found that children of Vietnam veterans often show symptom clusters which parallel those of their fathers. These include outbursts of anger, anxiety, depression and low frustration tolerance.

In addition, there is evidence that individual and intrafamilial violence has increased following violence or disaster, for example, in Kuwait after the Iraqi occupation (Nader & Fairbanks, 1994) and in the midwestern United States following the floods (Kohly, 1994).

Such mixed findings are hardly surprising given the multiple possible sources of life-time trauma that may impact on an individual, and it would be unwise for clinicians to be dismissive of the underlying assumption of family therapists and psychodynamic theorists that psychopathology can be transgenerationally transmitted. There is therefore a case for the assessment of trauma with the presenting family as well as previous generations as the unit of analysis.

3 The assessment of the effects of PTSD on relationships

According to Carlson (1989), family assessment serves five functions: (i) screening and initial evaluation; (ii) definition of the client's problem (includes diagnosis and quantification of severity); (iii) planning or establishing the goals of treatment; (iv) monitoring progress; (v) evaluation of treatment outcome.

However, Wilson and Kurtz (1997) advise against the administration of formal protocols until the couple have had an opportunity to describe the impact of the trauma in detail. This view is defensible not only on

intuitive and humanitarian grounds, but also on theoretical and clinical grounds. As in individual therapy, the presenting couple may have a powerful need to tell their story to a neutral listener and thereby begin processing the material. A therapist who engages in formal assessment from the outset may inhibit this need and possibly even collude in the avoidant component of the traumatic syndrome. Both Horowitz's (1976) formulation and the later information processing synthesis by Creamer et al. (1992) lend theoretical support to this view.

The therapist should also dedicate time to qualitatively assess the couple's premorbid interpersonal functioning. Couples vary in this respect and research (e.g. Lewis, 1986) indicates that these differences exist to the degree that the members have been able to successfully negotiate issues relating to emotional commitment, interpersonal closeness and decision making.

If a couple was dysfunctional prior to the traumatic event, then there is a likelihood that these dysfunctional patterns will be amplified by the additional stress of the trauma and adversely influence coping and readjustment (McCubbin & Patterson, 1983).

It is also important for the clinician to be aware of the severity of the victim's reaction to trauma and the meaning these reactions have for the couple. The phenomenon of secondary trauma in couples is well established. For example, in their investigations into secondary trauma in wives of war veterans suffering from PTSD, Waysman et al. (1993) reported that episodes of depression, detachment, loss of sex drive and appetite, emotional constriction, psychic numbing, dissociation, flashback experiences and other features of PTSD may be a source of confusion and distress to a partner who is uninformed about PTSD syndromes. The clinician may therefore have to adopt a psycho-educational approach and help couple understand their post-trauma interactions prior to the administration of formal assessment procedures.

3.1 The formal assessment of marital adjustment and coping

Measures for Clinical Practice (Fischer and Corcoran, 1994) lists over 30 self-report instruments for measuring marital adjustment, and many of these can be applied to the assessment of post-traumatic syndromes. As some of these scales assess only single variables, they have greater utility for research than for clinical practice. However, the administration of such standardized scales can elicit useful information which might not be elicited through interviews.

Three instruments used extensively by family traumatologists are the Dyadic Adjustment Scale (DAS; Spanier, 1976), the Personal Assessment of Intimacy in Relationships (PAIRS; Schaeffer & Olfson, 1981) and the Marital Satisfaction Inventory (MSI; Snyder, 1979). These are described briefly below.

The Dyadic Adjustment Scale (DAS)

The DAS (Spanier, 1976) is essentially an updated derivative of the Marital Adjustment Test (MAT; Locke & Wallace, 1959) and is typically used as a global measure of satisfaction in married and cohabiting couples.

The DAS consists of 32 items addressing relationship satisfaction, consensus between partners and dyadic cohesion and is usually scored on a 6-point scale of agreement.

Factor-analytic studies by Spanier (1976) have resulted in four subscales:
(i) dyadic consensus (ii) affective expression (iii) dyadic satisfaction and (iv) dyadic cohesion. These subscale scores can be totalled to yield an overall total adjustment score.

Like the MAT, its progenitor, the DAS has sound psychometric properties. Weiss, Hops & Patterson (1973) have demonstrated that the DAS discriminates well between distressed and non-distressed couples. It is easily administrated and can yield reliable and valid measures of distress in relationships where one or both partners suffer from PTSD.

Wilson and Kurtz (1997) have criticised the DAS for not having more items included in the affective expression subscale as the modulation of affect is a core symptom associated with PTSD associated with relationship difficulties (Figley, 1986). They further criticise the scale for confusing the construct of marital satisfaction with that of marital adjustment. Despite these criticisms, the DAS has been used in over a thousand studies over the last decade (Wilson & Kurtz, 1997).

The Personal Assessment of Intimacy in Relationships (PAIRS)

The PAIRS (Schaeffer & Olfson, 1981) consists of 36 items designed to measure the construct of intimacy. Factor analysis of the original 75-item scale identified subcomponents of intimacy as emotional, sexual, intellectual and recreational. The items address activities, feelings and attitudes reflecting degrees of intimacy in the relationship, and respondents rate statements about their relationships on a 5-point scale of agreement/disagreement.

Internal consistency of the subscales is reported as .7 (Cronbach's alpha) and evidence of the scale's validity has been demonstrated through its fulfilling predicted correlations variables on the Family Environment Scale (Moos & Moos, 1981).

Because intimacy in relationships frequently suffers as a consequence of PTSD, a case can be made for using the PAIRS as an instrument for assessing this aspect of relationship functioning.

The Marital Satisfaction Inventory (MSI)

The MSI (Snyder;1979) is a self-report scale developed to provide a multidimensional assessment of marital interaction. The response format is True/False, and the scale typically takes 30-45 minutes to complete.

The scale consists of 280 items constituting 11 subscales. These are:

Conventionalism

Global Distress

Affective Communication

Problem-solving Communication

Time together

Disagreement about Finances

Sexual Dissatisfaction

Role Orientation

Family History of Distress

Dissatisfaction with Children

Conflict over Childrearing

Factor analysis has indicated that the affectively loaded scales ('Global Distress', 'Affective Communication', 'Problem-solving Communication' and 'Time Together') contribute to most of the total scale variance.

The MSI has acceptable psychometric properties. Test-retest reliability over a 6-week period has been determined at .89 (Snyder, Wills & Keiser, 1981), and the scale has been shown to have distinct groups validity in that it discriminates between couples in marital therapy and those in the general population. Concurrent validity of the scales has been demonstrated by its agreement with structured clinical ratings of couples entering therapy (Snyder et al., 1981).

4 The assessment of family functioning

It is important to bear in mind that because of the difference in the object of assessment, instruments designed to assess family functioning in response to traumatic events will be inherently different from instruments designed to assess individual responses to trauma.

According to Wilson and Kurtz (1997), family assessment instruments can be differentiated broadly by the frame of reference of the rater (insider or outsider) and whether the type of data collected is subjective or objective (Cromwell, Olson & Fournier, 1976). The 'insider' frame of reference refers to family members' ratings of family functioning whilst the 'outsider frame' refers to clinical rating scales and

judgements based upon observations of family interaction. According to Kerr & Bowen (1988), 'objective' definition is not affected by personal feelings or prejudice whereas 'subjective' definition is dependent on personal feelings and opinions. However, the subjective-objective dimension should be conceptualised as continuous rather than dichotomous, and both insiders and outsiders may vary on this dimension.

Studies comparing different models of family functioning through insider and outsider perspectives have reported low convergence between views (Hampson, Beavers & Hulgus, 1989). In a study on client-based descriptions of family therapy, Kuehl, Newfield and Joanning (1990) found that families were more likely to drop out of treatment if their perceptions were too different from those of the therapist. It seems important therefore that to reduce the risk of treatment failure, clinicians do not impose 'objective views' on the family in crisis.

The research cited suggests that if one or more family members show symptoms of PTSD, the family unit may experience changes in expression of affect, organization, daily interaction and beliefs.
Fisher (1976) proposed four categories of family constructs that should be assessed:

1.*Family structure*

Organization of the family roles and expectations as well as patterns of task and social functions

2.*Process*

Actions and activities within the family which include control, regulatory and communication functions.

3. *Affective expression*

Patterns of affect regulation

4. *Orientation*

The family's attitudes and beliefs about the family unit, especially in terms of its competency and its relations with the outside world.

In a critique of assessment techniques. Grotevant and Carlson (1989) found that only 3 out of 17 instruments of global family functioning assess all four categories in the above framework and all three have both 'insider' and 'outsider' scales. The three assessment instruments chosen were the Beavers Systems Model (Beavers & Hampson, 1990, 1993), the Circumplex Model (Olson, Russell & Sprenkle, 1983; Olsen et al., 1989) and the McMaster Family Assessment Device (Epstein, Bishop, Ryan, Miller & Keitner, 1993).

4.1 Assessing families' perceptions of stress

McCubbin et al. have developed a series of instruments to measure the stresses that effect the entire family (Olson et al., 1989). These instruments have the advantage of directly assessing the family's responses to stressful events, are brief and easy to administer. One such instrument is the Family Inventory of Life Events (FILE; McCubbin, Patterson & Wilson, 1983) which measures *individual* perceptions of stressful events to which a family has been exposed over the preceding 12 months.

In contrast to approaches which measure individual family members' perceptions of stress, Reiss and Olivieri (1991) have developed an approach which differs from others in that family *group* perceptions rather than individual members' perceptions of stress are assessed. These authors generated a systematic set of items likely to be stressful to the family as a unit. Stressors are investigated in the content areas of health, jobs, family activities, extended family life and the family's neighbourhood. Families are asked to rate these items in terms of the group perception of stress and are asked how accountable they feel they were for the event.

Responses are classified into four categories:

1. Events perceived as having high impact on the family but for which they are not held accountable
2. High-impact events for which the family is held accountable
3. Low impact events for which the family is held accountable
4. Situations that do not pertain to the family.

Reiss & Olivieri hypothesize that family crises will result when the event has high impact and the family is perceived to be accountable for the traumatic event and the family members act ineffectively in coping with the crisis.

The Family Crises-Oriented Personal Evaluation Scale (F-COPES; McCubbin, Cauble & Patterson, 1982) assesses internal and external family strategies for coping with traumatic events. The instrument consists of 29 items and responses are given on a 5-point scale.

The inventory contains five subscales:

1. Acquiring social support
2. Reframing
3. Seeking spiritual support
4. Mobilizing family to acquire help
5. Passive appraisal

Internal consistency has been reported as ranging from .63 to .86 for the full scale and stability estimates over a four-week interval range from .61 to .95 (McCubbin & Thompson, 1991).

4.2 Instruments for assessing whole family functioning

The Family Environment Scale

The Family Environment Scale (FES; Moos, 1974; Moos & Moos, 1981) aims to assess the impact of the family environment on individual and family functioning. Moos proceeded from the assumption that all social climates have characteristics which are amenable to measurement.

The FES comprises 10 subscales which assess the content areas of: (i) interpersonal relationships amongst family members, (ii) personal growth characteristics emphasised by the family and (iii) the system organizational features of the family. Each of these dimensions is assessed by a series of subscales.

Interpersonal relationships are tapped by the subscales of 'Cohesion', 'Expressiveness' and 'Conflict'. The Cohesion subscale measures the extent to which family members are concerned with and committed to the family and the degree to which family members are helpful and supportive of one another. The 'Expressiveness' subscale measures the extent to which family members are permitted and encouraged to act openly and express their feelings directly. The 'Conflict' subscale measures the extent to which the open expression of anger and aggression and generally conflictual interactions are characteristic of the family.

Personal growth characteristics are tapped by the subscales of 'Independence', 'Achievement orientation', 'Intellectual-cultural orientation', 'Active recreational orientation' and 'Moral-religious emphasis'.

The 'Independence' subscale addresses the extent to which family members are encouraged to be assertive, self-sufficient, to make their own decisions and to think things out for themselves. The 'Achievement orientation' subscale measures the extent to which different types of activities are cast into an achievement-oriented or competitive framework. The 'Intellectual-cultural orientation' subscale assesses the extent to which the family is concerned about political, social, intellectual and cultural activities. The 'Active recreational orientation subscale' assesses the degree to which the family participates actively in various kinds of recreational and sports activities, and the 'Moral-religious emphasis subscale assesses the degree to which the family actively discusses and emphasises ethical and religious issues and values.

The dimension of systems maintenance is tapped by the subscales of 'Organization' and 'Control'. 'Organization' measures how important order and organization are in the family in terms of structuring the family activities, financial planning and explicitness in regard to family rules and responsibilities.

'Control' measures the extent to which the family is organized in a hierarchical manner, the rigidity of family rules and procedures and the extent to which family members order each other around (Moos, 1974).

Three forms of the FES exist and each consists of 90 true/false items. The forms are:

Form R: The Real form

Form I: The Ideal form

Form E: The Expectations Form

The authors report reliability of the FES to be acceptable with internal consistency across the 10 subscales ranging from .61 to .78. Stability over an 8-week interval has varied from .68 to .86.

The construct validity of the FES has been challenged on the grounds that the rated dimensions do not correlate with other ratings ostensibly measuring the same construct (Oliveri and Reiss, 1984). A further criticism of this instrument is that there are no 'outsider' versions of the rating forms.

According to Wilson and Kurtz, (1997) the Relationship and System Maintenance dimensions of the FES are the most sensitive to the impact of PTSD.

The Circumplex Model of Marital and Family Systems

The Circumplex Model of Marital and Family Assessments (Olson, Sprenkel & Russell, 1979; Olson, 1986; Olson, Russell & Sprenkle, 1983) studied over 1000 families at different life-cycle stages for more than a decade in an attempt to understand how families cope with various situational stresses and demands throughout the life cycle.

The original Circumplex Model was a family typology which is based on the family's degree of *adaptability* (i.e. its ability to permit changes in its rules, power structure and role relationships) and *cohesion* (the emotional bonding of family members to one another (Goldenberg & Goldenberg, 1991).

According to this model, the ideal state is a balance on each of these dimensions, with extremes reflecting dysfunctional family patterns. For example, too much cohesion leads to enmeshment; too little may lead to isolation. Similarly, too much adaptability leads to excessive change, unpredictability and chaos; too little may lead to rigidity and stagnation.

The evaluation instruments which have evolved from this model comprise the Circumplex Assessment Package with the later versions including assessment on a third dimension, *communication*. The three

dimensions were extracted from clustering of more than 50 concepts generated to describe marital and family functioning. Included in the package are the Family Adaptability and Cohesion Evaluation Scale (FACES III) and the Marital Adaptability and Cohesiveness Scale (MACES III, Olson, 1986).

The Circumplex Model has generated a great deal of research and the study of how families cope effectively with stress (Olson et al., 1989) has been a significant part of this. It has also been used to study other family processes (e.g. Walsh & Olson, 1989; Ben-David & Levee, 1992; Craine et al., 1992). The model is grounded in empirically testable theory and, because of its extensive use and continuous development, has good research support and norms.

The Beavers Systems Model

The Beavers Model of family assessment developed from a need to determine baseline measures of healthy family functioning. It focuses on the competence of the family as a unit rather than on individual family members. Lewis, Beavers, Gossett and Phillips (1976) interviewed members of intact families (each of which had at least one adolescent member and none of which had a member with a psychiatric history) and video-taped their interactions.

Several raters assessed the video-tapes on the five main dimensions of (i) family structure, (ii) mythology, (iii) goal-directed negotiation (iv) autonomy and (v) family affect. On the basis of these ratings, each family was allocated a score on a health-pathology scale and the healthy families were then compared to families with a hospitalised adolescent. What emerged was that no single variable over-determined healthy family functioning. Family health appeared to be determined by differences in degree on a number of dimensions. Key determinants of good family health were identified as being the capacity of the family to communicate thoughts and feelings and the degree to which the parental coalition provided family leadership.

Despite criticisms of Beaver's early research on the grounds of his sampling only white middle-class families an defining 'family health' negatively in terms of the absence of pathology, subsequent research (Beavers, 1981, 1982; Beavers & Voeller, 1983; Beavers & Hampson, 1993) has provided evidence that families lie on a continuum in terms of their competence. Family competence is defined as how well a family unit performs the necessary and nurturing tasks of organizing and managing itself. At one extreme the families are leaderless, chaotic, invasive and have diffuse boundaries. Around the mid-range are families with relatively clear communication patterns marked by rigid interpersonal control, distancing, and with ambivalence handled by repression. At the healthy end of the scale lie families with autonomous individual members with a capacity for intimacy, warmth and closeness but who also respect separateness and allow for individual choice and the expression of ambivalence.

The system also rates families in terms of their *style*, with less competent families rigidly adhering to one style, either 'centrifugal' or 'centripetal'. Members of centripetal families see most of their satisfaction in relationships as coming from within the family. Members of centrifugal families see most of their relationship satisfaction as being derived from outside the family group.

The model predicts that extremely dysfunctional centrifugal families are likely to have sociopathic offspring whereas extremely dysfunctional centripetal families are more likely to have schizophrenic offspring. Competent families that lie in the mid-range of the centripetal-centrifugal continuum are less likely to have pathological offspring.

The Beavers System employs both a self-report inventory (Beavers, Hampson, & Hulgus, 1985) and an external observation measure, The Beavers Interactional Competence Scale (BICS; Beavers & Hampson, 1990, 1993).

Both the self-report instrument and the observation scale assess the same dimensions allowing for comparison of 'insider' and 'outsider' ratings (Hampson et al., 1989).

The Beavers Scales generate the following subcategories:

I. Structure

A. Overt power: chaos to egalitarianism

B. Parental coalitions: parent-child coalition to to strong parental coalition

C. Closeness: indistinct boundaries to closeness with clear boundaries

II. Mythologies: degrees of congruence in role functioning

III. Goal: directed negotiations; problem solving

IV. Autonomy

A. Clarity of Expression

B. Responsibility for behaviour

C. Permeability: degree of openness

V. Family affect

A. range of feelings: wide range to restricted

B. Mood and tone: warm and affectionate to cynical, pessimistic

C. Unresolved conflict

D. Empathy

VI Global health pathology

In terms of coping with the demands of a stressful situation, the empirical research suggests that the families most successful at coping were those who were able to express a wide range of feelings, including frustration and joy. The more dysfunctional families showed less expression of affect and more emotional constriction (Beavers, Hampson & Hulgus, 1985; Hampson, Beavers & Hulgus, 1988).

In terms of assessing the effects of trauma on a family, the model predicts that under severe stress, preexisting organization and role structures will be amplified.

Because the output of the Beavers assessment is grounded in empirically supported theory, the model has good clinical utility in that it can help the clinician set attainable goals to help the family cope better with stressful situations including extreme trauma. Beavers and Hampson (1990) offer helpful information on how this might be achieved.

The McMaster Model

Development of the McMaster Model of Family Functioning (Epstein, Baldwin & Bishop, 1982) started in the late 1950s. The model addresses family structure, organization and transactional patterns and pays attention as to how the family develops and maintains itself through its coping skills. The model focuses on three domains which are believed to have the most impact on the emotional and physical health or problems of family members:

(i) The basic task area (how the family deals with problems of providing food, money, transportation and shelter).

(ii) The developmental task area (how the family deals with problems arising as a result of changes over time such as children leaving home).

(iii) The hazardous task area (how the family handles crises such as illness and loss of income).

The Family Assessment Device (FAD; Epstein et al., 1983) was developed by the McMaster group to assess the family's ability to cope with these three task areas and taps six areas of family functioning:

(a) Family problem solving (the ability to resolve family problems well enough to maintain effective family functioning)

(b) Family communication (the information exchange among family members)

(c) Family roles (clear and accepted assignment of tasks and their completion)

(d) Affective responses (ability to express appropriate emotions)

(e) Affective involvement (the value placed on the family members' concerns, activities and interests)

(f) Behaviour control (the pattern the family adopts for handling dangerous situations, social interactions and for handling members' psychobiological needs)

An additional scale assesses global functioning.

The 60-item questionnaire is scored on a four-point scale from 'Strongly agree' to 'Strongly disagree' and, like the Beavers model, the dimensions of family functioning are assessed on a continuum from dysfunctional to optimal.

The psychometric properties of the subscales are adequate with internal consistency reliabilities for the six subscales varying from .72 to .83. The reliability of the global functioning scale is .92.

The FAD has been shown to have distinct-groups validity in that it was able to discriminate between college students and individuals who have siblings, spouses, parents or children in a psychiatric hospital.

A major advantage of the McMaster Model is its face validity. The concepts are described in clear, understandable dimensions that allow for ease of goal setting in family therapy.

Of the family assessment methods reviewed, only the Circumplex, Beavers Systems and McMaster models include both 'insider' and 'outsider' ratings on the same family dimensions allowing comparisons to be made between clinicians' observations and family members' own perspectives. This is an extremely important consideration as family members may feel misunderstood and drop out of therapy if they believe that the therapist's views are being imposed on them (Griffith & Griffith, 1994).

Although all three models are sensitive to the potentially dysfunctional reactions to PTSD in the family, they also identify family resources or processes associated with healthy family functioning. This too is an important characteristic of the instruments as such positive processes can facilitate a supportive environment for recovery from trauma (e.g. Figley, 1989).

PTSD in one or more family members appears to disrupt the balance of normal family functions. Families need a balance between stability and flexibility for continuity and change (Olson, 1993) as well as a balance between connectedness and individual autonomy (e.g. Beavers & Hampson, 1993; Kerr &

Bowen, 1988), and the clinician seeking to introduce effective interventions needs to make accurate assessments of families with these balances in mind. It is for this reason that at least one 'whole family' assessment procedure should be used in the wake of trauma (Wilson and Kurtz,1997).

4.3 The assessment of transgenerational effects of trauma

The genogram

For the purpose of recording the transgenerational effects of trauma, the family genogram (Bowen, 1978) is an extremely useful assessment device. It is not a psychometric instrument but rather a descriptive recording device for qualitative data allowing the clinician to chronologically map the family history and significant life events across generations and enables the generation of therapeutic hypotheses driven by the emergent qualitative data.

The family genogram consists of a number of symbols (e.g. square = male; circle = female) with relational linkages (e.g. marriages, cohabitation and births) indicated by a grammar of lines which link the symbols.

Within the context of trauma assessment, the counsellor focuses on events in the family history which might have triggered extreme stress. Carter & McGoldrick (1989) suggest that there can be both 'horizontal' and 'vertical' flow patterns within a family. 'Horizontal' flow might occur when the family has difficulty dealing with current adverse events or when there is a ripple effect of one family member's trauma within the nuclear family. 'Vertical' flow refers to transgenerational manifestations of traumatic sequelae. An example of this would be a family where one generation, traumatised by war or slavery, acts out PTSD symptoms such as anxiety and violent outbursts on the next generation and so on. According to McGoldrick & Gerson (1989) repetitive patterns of family behaviour, roles, values and beliefs evolve through the generations into the manifest behaviour of the current family group. Danieli (1993) has utilized this approach in the assessment and treatment of Nazi Holocaust survivors.

From the perspective of 'solution-oriented' therapy (e.g. deShazer, 1985; O'Hanlon & Weiner-Davis, 1989), the genogram can be used to identify existing positive family resources and can help the family develop these into healthy coping strategies.

5 The assessment of trauma in children

The copious research literature on PTSD indicates that unresolved traumatic reactions in children may have adverse long-term effects which continue into adulthood. These effects may include the development of pathological personal traits, disturbances in interpersonal functioning, cognitive dysfunction, and anxiety disorders. Dysfunctional coping strategies such as substance abuse may also develop. If untreated, these dysfunctional traits and behaviours are likely to be carried into adulthood with the individual being unable to function adequately personally, socially, academically and occupationally (Wilson & Raphael, 1993).

Because of these mental health risks, the accurate assessment and treatment of trauma in children is essential, not only for the child, but also in terms of the prevention of subsequent transgenerational effects.

Prior to 1980, the assessment of childhood trauma was conducted mainly through clinical observation (Carey-Trefzer, 1949; Bloch, Silber & Perry, 1956; Bergen, 1958; Lacey, 1972; Newman, 1976; Green, 1983), review of case records (Levy, 1945), and parents' and teachers' reports of children. Whilst being of some value, these methods were weakened by the risks of subjective bias and issues relating to poor reliability.

For both clinical and research purposes, these difficulties were addressed by the development and application of standardised instruments for the assessment of traumatic reactions in children. These instruments included measures of depression (e.g. Birleson Depression Inventory; Birleson, 1981), anxiety (e.g. Children's Manifest Anxiety Scale; Reynolds & Richmond, 1978), fear (e.g. Fear Survey Schedule for Children; Ollendick, 1983), 'caseness' (Rutter's Scale; Rutter, 1967) and measures of trauma applying adult scales to children (e.g. IES; Horowitz et al., 1979).

A number of dedicated instruments now exist to assess traumatic reactions in children. Amongst these are the Children's Posttraumatic Stress Reaction Index (CPTS-RI; Frederick, Pynoos & Nader, 1992), the Child's Reaction to Traumatic Event's Scale (CRTES; Jones, 1994), the Clinician Administered PTSD Scale for Children (CAPS-C; Nader, Kriegler, Blake & Pynoos, 1994b; Nader et al., 1996), My Worst Experience Survey and My Worst School Experience Survey (MWES, MWSES; Hyman, Zelikoff & Clarke, 1988) and the When Bad Things Happen Scale (WBTH; Fletcher, 1991).

Traumatic reactions in children may also be assessed using PTSD subscales within comprehensive diagnostic instruments. Two well-known PTSD children's subscales are the Diagnostic Interview for Children and Adolescents-Revised (DICA-R; Reich, Shayka & Taibleson, 1991) and the Diagnostic Interview Schedule for Children (DISC; Shaffer, Fisher, Piacentini, Schwab-Stone & Wicks, 1992).

Another approach to the assessment of trauma in children is to use instruments which assess symptoms or behaviours relating to specific aspects of traumatic reactions. Representative of this group are the Angie/Andy Child Rating Scale (A/A CRS; Praver, Pelcovitz, & Di Giiuseppe, 1993), the Child Dissociative Checklist (CDC; Putnam, 1994), the Children's Impact of Traumatic Event Scale (CITES; Wolfe, Wolfe, Gentile & Larose, 1986; CITES-R; Wolf & Gentile, 1991), the Children's Sexual Behaviour Inventory (CSBI-3; Friedrich, 1995) and the Trauma Symptom Checklist for Children (TSCC; Briere, 1996).

Variables influencing accuracy of assessment

A number of variables may influence the accuracy of assessment of trauma in children. These can be categorised as interviewer, event, response, respondent and instrument variables - all potential sources of measurement error of which of which the clinician and researcher should be cognisant. These are now briefly reviewed.

Interviewer variables

There are several approaches to post-trauma screening in children. These include direct interviews with children by clinicians or researchers, questionnaires mailed to children and adolescents to complete, and questionnaires distributed to children to complete with a researcher present to read and clarify questions to respondents. There is evidence that using a semi-structured interview which allows for probe questions rather than having the child complete the instrument seems to increase the sensitivity of the measurement (Jones & Ribbe, 1991), and Nader (1997) suggests that assessment of children will be improved if clinicians establish a good rapport with the child, have a sound understanding of the meaning of the child's post-traumatic symptoms and are sensitive to the child's non-verbal cues. In addition, interviewers trained in administration and interpretation of a particular instrument are likely to contribute to the reliability of the instrument. Many of the authors of assessment instruments listed above (e.g. CAPS-C; DISC-PTSD Module; CITES-R) recommend some level of training before the instrument is applied.

Prior to assessment, the interviewer should be aware of details of the event as the enables the assessor to have a sense of the child's accuracy of recall of the event.

In addition, the assessor should be aware of cultural issues related to the affected population as this can influence assessment responses. For example, following the Gulf Crisis, Kuwaiti girls who had been raped were reluctant to report their experiences until they were assured of confidentiality and separate record keeping. A member of the local clergy explained that in that culture a raped woman was considered irreparably tainted. There are reports of some Kuwaiti rape victims being killed by a family member (Nader 1997).

Phase of response and phase of event variables

The time at which the assessment is carried out may influence measurement. If traumatic response is conceptualised as a fluid rather than static response to an event (e.g. Horowitz 1974), then the time at which the assessment is carried out may influence measurement. The initial numbing and denial may decrease for children who are traumatized so that assessment may be more accurate at 3-5 weeks following the event. Nader also suggests that such phase of response variables interact with phase of event variables. Comparing Kuwaiti and Croatian children in the wake of war, she found that whereas Kuwaiti children had become focused upon the extent of the physical and psychological damage and issues of accountability, Croatian children were still focused upon surviving the war. The latter group coped by watching the news and staying informed. In this group numbing was a necessary and prevalent coping mechanism with symptoms being warded off in case there was more to endure.

In a comparison of children traumatized by single incidents of violence with those traumatized by painful treatments for life-threatening diseases such as bone marrow transplantation (BMT), Nader and Stuber (1992) found that the most striking differences were the predominance of avoidance symptoms and the reduced number of arousal symptoms in the bone marrow transplantation patients. It appears, therefore, that the nature of the event and timing of the assessment are important determining factors of the observed measurements.

Respondent variables

The age and emotional maturity of the child will also determine the accuracy of responses to assessments. For example, if children are asked about their feelings and behaviours over the past week or month , some children under the age of 8 may have difficulty relating their feelings to a specific time-frame. In many questionnaires, the items themselves have had to be reworded for better comprehension by children (Nader, 1993). For example, in assessing 'survivor guilt', asking children if they feel bad because someone else was hurt worse than they were (as in the WBTH scale) tends to discriminate poorly between traumatised and non-traumatised children as, according to Nader, most children feel bad because others were hurt worse than they were. Nader suggests that it may be more instructive ask the child whether he or she feels bad because of not being hurt as badly as others.

Normal cognitive-developmental characteristics of children should also be taken into account when making assessments. In assessing dissociative phenomena, for example, it is necessary to be aware that forgetfulness, shifts in attention and a variable sense of identity are normal in young children and that feeling unreal and detached from one's experience may be common for adolescents (Hornstein & Putnam, 1992; Putnam, 1993).

Instrumentation variables

The wording of questions will determine the accuracy of responses in children. Lexical and structural items may need to be simplified for children between the ages of 5 and 8 years (Nader, 1993) and for those under the age of 5, it may be best to assess using a combination of observation, questions during play, and supplemental information from caretaking adults (Nader, Stuber & Pynoos, 1991).

In the opening stages of the assessment interview it is important not to ask questions that elicit defensive responses. Questions about socially undesirable behaviours such as anger and other impulsive acts may elicit a defensive position which inhibits the accurate answering of subsequent questions. Questions addressing such feelings and behaviour should be put after the child's trust in the interviewer has been established.

Scales measuring the traumatic responses of children tend to use three scoring systems. Some such as the DISC measure the presence or absence of the symptoms. Others such as the MWES/MWSES, CPTS-RI, DICA use ratings of the frequency with which the symptom occurs. Other instruments such as the CAPS-C and earlier versions of the MWES/MWSES use both frequency and intensity ratings. There is evidence which suggests that reports of symptoms may be enhanced if both frequency and intensity ratings are used with children. In a study of a small sample of children exposed to a destructive wildfire, Jones, Ribbe & Cunningham (1994) found that children reported fewer PTSD symptoms on the DICA-R than on the IES-C. They suggest that this difference may be due to the measurement of intensity on the IES-C whereas the DICA-R measures the presence or absence of symptoms.

Normative issues

Although it is generally assumed that appropriate sampling methods and statistical adjustments will yield appropriate normative data, means may be artefactually raised or lowered if certain response variables are not taken into consideration.

Apart from the usual demographic factors such as location, age, gender, ethnicity and socioeconomic status, cognitive and developmental factors need to be considered in establishing norms. Means of non-clinical ('normal') populations may be raised through the inappropriate inclusion of responses from cognitively delayed and young traumatised children who have difficulty in reporting detailed accounts of their symptoms and/or experiences. Similarly, the inclusion of children who deny trauma and who under-report symptom levels may lower the mean of clinical populations. Elliott & Briere (1994) have found differences in symptom levels reported by children who deny the event and/or its symptoms. There are also differences in levels of exposure (Singer, Anglen, Song & Lunghofer, 1995) and in levels of

symptoms between children who live in large cities and those who live in small cities and rural areas (Briere, 1996; Richters & Martinez, 1991).

Given these issues, it is important for both researchers and clinicians to be wary of over-reliance on psychometric procedures in the assessment of children. Such data should be triangulated against other sources of information such as parents and teachers to enhance the validity of diagnoses and subsequent interventions.

6 Conclusion

Like the research component, this review was driven by a practical need which arose in the contexts of primary health care and Employee Assistance Programmes. Traumatised individuals present for counselling in both contexts and both they and the counsellors concerned need to have an awareness of the impact of trauma on other family members. In addition, there is an increasing trend amongst EAP providers to become involved in disaster areas such as the 1999 Turkish earthquakes and Ladbroke Grove rail crash in which whole families may be affected. Because audit has become an increasingly important issue in both the public and private sectors of mental health provision, there is a need for valid assessment procedures. It therefore became necessary to broaden the focus of post-trauma assessment from the individual to the systemic level by researching appropriate family assessment instruments, and this review sought primarily to address this area. Although whole family functioning was the primary unit of analysis, because the individual assessment of young children is often an integral part of family assessments and requires specialised skills and instruments, issues relating to this area were also addressed.

EPILOGUE

The general theme of this dissertation was the assessment of trauma, and the underlying motivation was to make a practical contribution to the field of counselling psychology.

The research component addressed the psychometric assessment of three major symptoms clusters of PTSD, intrusion, avoidance and hyperarousal, as measured by the IES and IES-R as well as the assessment of the occupational impairment encountered in those affected by trauma. The IES is widely used as a screening instrument for PTSD but is limited in that it only assesses two aspects of PTSD symptomatology, intrusion and avoidance. The recently formulated IES-R has the advantage of also measuring hyperarousal, but both versions of the scale suffer from a dearth of normative data relevant to counselling in primary health care practices. The research presented here reflects an attempt to address this difficulty and is part of an ongoing project to accumulate appropriate normative data.

The development of the DAWS scale was driven by a need for a brief and easily administered scale for the assessment of occupational distress. In the context of Employee Assistance Programmes (EAPs), counselling provision is typically funded by corporate clients who, understandably, have an interest in the efficacy of EAP services. The amelioration of occupational distress is a core objective of EAP providers, and the DAWS is intended to help in the assessment of the attainment of this objective. Because occupational impairment is also frequently associated with trauma, the DAWS may also have utility in medico-legal contexts in which psychologists are requested to assess this criterion following a traumatic incident. The observed correlations between the DAWS and the IES-R scales suggest that used together, the two instruments may constitute a useful screening battery as an adjunct to qualitative assessment.

The case study continued the theme of assessment in the context of critical incident debriefing. The study addressed the training of counsellors in critical incident debriefing (CID) procedures on a course commissioned by an EAP provider. This course was chosen as the focus of the case study as it presented a number of challenges which reflected the tensional relationship between Human Resource Development (HRD) and Adult Education (AE). Because the course was commissioned by an EAP provider who had a vested interest in the provision of critical incident debriefing as well as a right to specify the general content of the course for its employees, the course fell firmly within an HRD context. However, since the trainer and most of the trainees acknowledged an ethical and intellectual need for a critical perspective on the material being delivered, the course coverage extended to an evidence-based critical evaluation of critical incident debriefing which was more in keeping with an AE perspective. As a result, trainees were made aware of the contentiousness surrounding the procedure they were being trained to employ and, in

keeping with andragogical principles, were left to decide for themselves whether they should engage in debriefing procedures.

The critical perspective adopted raised issues relating to the utility of the critical incident debriefing. Since by its nature CID may restimulate traumatic symptoms without desensitizing participants, we are obliged to ask what good might result from employing such a procedure. With this question in mind, the course was designed to show how CID might be used as a means of identifying those at risk so that appropriate one-to-one therapy might be effected without undue delay. For this reason course coverage included the assessment of PTSD even though this material was not directly specified by the commissioning organization.

The regulations prescribing the structure of this submission stipulate that the final review should address an area different to that addressed in the research component. To comply with this regulation whilst also maintaining the underlying theme of the submission, the review focused on the assessment of traumatic impact in couples, families and children rather than on individual adults. For effective counselling interventions in the wake of trauma, both clients and practitioners need to be aware of the impact of trauma on the family group as well as possible transgenerational impact. There is therefore also a need for appropriate assessment at the systemic level, and the purpose of this review was to present theory-based assessment approaches which may be of use to practitioners undertaking trauma-related counselling and research.

Despite its inclusion of theoretical perspectives at various points, the emphasis of this submission is intended to be primarily of an applied nature, and it is hoped that the contents will prove helpful to those working with individuals and groups who have been exposed to potentially traumatic events.

APPENDICES

APPENDIX 1 **IMPACT OF EVENT SCALE**

Sex:____ Age:_____

On (DATE)_____you experienced(LIFE EVENT)_____

Below is a list of comments made by people after stressful life events. Please read each item and indicate how frequently these comments were true for you ***DURING THE PAST SEVEN DAYS***. If they did not occur during that time, please mark the "Not at all" (N) column.

Please respond by circling one of **N R S** or **O** for each item.

0	**N = Not at all**
1	**R = Rarely**
3	**S = Sometimes**
5	**O = Often**

COMMENT	**FREQUENCY**
1. I thought about it when I didn't mean to.	**N R S O**
2. I avoided letting myself get upset when I thought about it or was reminded of it.	**N R S O**
3. I tried to remove it from memory.	**N R S O**
4. I had trouble falling asleep or staying asleep because of pictures or thoughts about it that came into my mind.	**N R S O**
5. I had waves of strong feelings about it.	**N R S O**
6. I had dreams about it.	**N R S O**
7. I stayed away from reminders of it.	**N R S O**
8. I felt as if it hadn't happened or it wasn't real.	**N R S O**
9. I tried not to talk about it.	**N R S O**
10. Pictures about it popped into my mind.	**N R S O**
11. Other things kept making me think about it.	**N R S O**
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.	**N R S O**
13. I tried not to think about it.	**N R S O**
14. Any reminder brought back feelings about it.	**N R S O**
15. My feelings about it were kind of numb.	**N R S O**

I	1	4	5	6	10	11	14		I:
A	2	3	7	8	9	12	13	15	A:
									T:

TODAY'S DATE:_____

APPENDIX 2 **STUDY 1: IES RAW DATA**

RESPONDENT	IES-I	IES-A	IES-T	CASENESS	SEX M1 FO
1	20	27	47	1	0
2	9	17	26	1	0
3	21	18	39	1	0
4	16	30	46	1	0
5	19	32	51	1	0
6	35	40	75	1	0
7	10	10	20	1	0
8	22	26	48	1	0
9	35	40	75	1	0
10	28	25	53	1	0
11	33	26	59	1	0
12	18	22	40	1	0
13	35	40	75	1	0
14	35	40	75	1	0
15	21	36	57	1	0
16	25	21	45	1	0
17	21	10	31	1	0
18	35	24	59	1	0
19	21	21	42	1	0
20	23	36	59	1	0
21	33	17	50	1	0
22	27	31	58	1	0
23	35	28	63	1	0
24	19	28	47	1	0
25	29	21	50	1	0
26	35	26	61	1	0
27	27	30	57	1	0
28	31	32	63	1	0
29	29	14	43	1	0
30	26	23	49	1	0
31	29	26	54	1	0
32	29	26	55	1	0
33	18	35	53	1	0
34	16	20	36	1	0
35	28	25	53	1	0
36	31	36	67	1	0
37	25	30	55	1	1
38	9	13	22	1	1
39	33	31	64	1	1
40	33	40	73	1	1
41	31	28	59	1	1
42	17	22	39	1	1
43	9	19	28	1	1
44	25	21	46	1	1
45	35	26	61	1	1
46	24	21	45	1	1
47	29	24	53	1	1
48	31	16	47	1	1
49	19	15	34	1	1
50	33	34	67	1	1
51	20	11	31	1	1
52	24	12	36	1	1
53	33	16	49	1	1

APPENDIX 2 **STUDY 1: IES RAW DATA**

RESPONDENT	IES-I	IES-A	IES-T	CASENESS	SEX M1 FO
54	16	17	33	1	1
55	9	14	23	1	1
56	0	0	0	0	0
57	12	7	19	0	0
58	5	4	9	0	0
59	17	14	31	0	0
60	0	0	0	0	0
61	2	1	3	0	0
62	34	21	55	0	0
63	3	7	10	0	0
64	29	1	30	0	0
65	14	36	50	0	0
66	1	15	16	0	0
67	15	20	35	0	0
68	6	1	7	0	0
69	4	5	9	0	0
70	10	1	11	0	0
71	17	15	32	0	1
72	20	1	21	0	1
73	12	14	26	0	1
74	21	12	32	0	1
75	15	29	44	0	1
76	6	5	11	0	1
77	3	20	23	0	0
78	1	1	2	0	1
79	27	38	65	1	1

APPENDIX 3 IMPACT OF EVENT SCALE-REVISED

Instructions: The following is a list of difficulties people sometimes have after stressful life events. Please read each item and then indicate how distressing each difficulty has been for you ***during the past 7 days*** with respect to:

Event:_____Today's date:_____

Date of event:_____Your age at the time:_____Your age now:_____

How much were you distressed or bothered by these difficulties over the past week?

		Not at all	A little bit	Moder-ately	Quite a bit	Extremely
1.	Any reminder brought back feelings about it.	0	1	2	3	4
2.	I had trouble staying asleep.	0	1	2	3	4
3.	Other things kept making me think about it.	0	1	2	3	4
4.	I felt irritable and angry.	0	1	2	3	4
5.	I avoided letting myself get upset when I thought about it or was reminded of it.	0	1	2	3	4
6.	I thought about it when I didn't mean to.	0	1	2	3	4
7.	I felt as if it hadn't happened or it wasn't real.	0	1	2	3	4
8.	I stayed away from reminders about it.	0	1	2	3	4
9.	Pictures about it popped into my mind.	0	1	2	3	4
10.	I was jumpy and easily startled.	0	1	2	3	4
11.	I tried not to think about it.	0	1	2	3	4
12.	I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	2	3	4
13.	My feelings about it were kind of numb.	0	1	2	3	4
14.	I found myself acting or feeling like I was back at that time.	0	1	2	3	4
15.	I had trouble falling asleep.	0	1	2	3	4
16.	I had waves of strong feelings about it.	0	1	2	3	4
17.	I tried to remove it from memory.	0	1	2	3	4
18.	I had trouble concentrating.	0	1	2	3	4
19.	Reminders of it caused me to have physical reactions such as sweating, trouble breathing, nausea, or a pounding heart.	0	1	2	3	4
20.	I had dreams about it.	0	1	2	3	4
21.	I felt watchful and on guard.	0	1	2	3	4
22.	I tried not to talk about it.	0	1	2	3	4

R	AGE	SEX	INTERVAL	IESR-I	IESR-A	IESR-H	IESR-T	CASENESS	BAI	BDI-II	GROUP
1	37	1	96	5	5	1	11	0	29	45	2
2	35	1	3	10	25	19	54	1	28	26	3
3	29	0	4	13	12	11	36	0	6	13	1
4	26	1	6	13	4	14	31	0	23	26	2
5	47	1	95	0	0	2	2	0	12	18	2
6	37	1	39	14	9	7	30	1	43	37	3
7	34	0	3	12	26	11	49	1	36	32	3
8	38	1	12	15	21	9	45	1	19	24	3
9	37	1	24	14	1	6	21	0	11	12	2
10	33	0	132	6	4	7	17	0	16	7	2
11	51	0	130	11	12	3	26	0	17	5	2
12	39	0	372	25	19	16	60	1	50	23	3
13	39	0	444	23	22	14	59	0	27	30	2
14	34	0	156	23	18	7	48	1	21	30	3
15	35	1	240	15	14	19	48	1	38	25	3
16	28	0	64	19	13	10	42	0	5	7	1
17	32	0	30	24	18	6	48	1	6	25	3
18	27	0	154	3	6	0	3	0	14	13	2
19	25	0	216	9	27	6	42	1	22	20	3
20	33	0	33	1	23	3	27	0	15	16	2
21	48	0	11	27	11	24	62	1	45	25	3
22	28	0	228	19	17	16	52	1	14	13	3
23	63	0	7	26	13	23	62	1	32	37	3
24	25	1	96	1	2	2	5	0	5	31	2
25	28	0	43	3	9	3	15	0	14	11	2
26	27	0	12	23	4	0	27	0	0	12	1
27	25	0	2	12	4	4	20	0	10	7	1
28	26	0	1	5	4	0	9	0	3	1	1
29	49	0	21	5	8	2	15	0	4	12	2
30	36	1	288	1	4	0	5	0	10	8	1
31	26	0	228	6	15	1	22	0	10	6	1
32	35	0	20	9	0	2	11	0	8	1	2
33	48	0	540	16	15	5	36	0	7	7	1
34	28	0	132	26	12	18	56	1	32	47	3

R	AGE	SEX	INTERVAL	IESR-I	IESR-A	IESR-H	IESR-T	CASENESS	BAI	BDI-II	GROUP
35	49	0	114	9	1	6	16	0	2	25	1
36	32	1	41	27	25	23	75	1	35	46	3
37	34	0	90	4	0	15	19	0	13	41	2
38	36	0	14	4	23	4	31	1	14	12	3
39	35	0	25	11	22	2	35	1	9	5	3
40	34	0	3	18	5	3	26	0	3	10	1
41	34	0	129	0	0	0	0	0	0	2	1
42	57	1	32	5	10	0	15	1	16	23	3
43	35	0	131	5	4	4	13	0	5	9	1
44	36	0	299	0	0	0	0	0	6	3	1
45	34	0	129	4	1	0	5	0	9	10	1
46	45	0	252	0	0	2	2	0	1	4	1
47	35	0	16	16	11	1	28	0	15	19	1
48	36	0	25	17	10	9	36	0	12	25	2
49	24	0	48	7	16	10	33	1	32	34	3
50	31	1	66	12	13	16	41	0	18	45	2
51	27	0	12	7	15	11	33	0	40	42	2
52	34	0	11	16	9	6	31	1	17	29	3
53	26	1	216	5	0	2	7	0	4	18	1
54	33	1	35	9	10	5	24	0	4	20	2
55	42	0	12	0	0	0	0	0	2	2	1
56	33	0	60	1	3	0	4	0	7	11	1
57	25	0	47	11	6	2	19	0	4	12	1
58	32	0	360	1	6	4	11	0	8	13	1
59	57	0	636	13	14	2	29	0	28	14	1
60	27	0	5	15	7	7	29	0	14	5	1
61	39	0	300	9	12	11	32	1	19	18	3
62	36	0	48	0	1	0	1	0	3	1	1
63	48	0	127	1	2	2	5	0	17	14	1
64	38	0	120	2	1	1	4	0	3	8	1
65	27	0	155	9	9	3	21	0	6	7	1
66	33	1	263	1	2	1	4	0	7	0	1
67	58	0	598	2	3	1	6	0	3	5	1
68	24	0	58	0	1	1	2	0	3	0	1

R	AGE	SEX	INTERVAL	IESR-I	IESR-A	IESR-H	IESR-T	CASENESS	BAI	BDI-II	GROUP
69	28	0	175	1	2	0	3	0	12	13	1
70	44	0	72	17	21	8	46	1	21	23	3
71	32	1	58	8	4	0	12	0	1	4	1
72	68	1	268	21	23	4	48	0	4	14	1
73	28	0	90	11	18	3	32	0	30	13	1
74	54	0	33	7	10	0	17	0	9	9	1
75	32	0	334	7	7	3	17	0	3	6	1
76	44	1	283	8	1	8	17	0	21	25	2
77	32	0	45	3	1	9	13	0	24	13	2
78	32	1	65	0	0	0	0	0	13	10	2
79	35	0	66	17	11	14	42	0	15	12	2
80	33	1	275	6	4	11	21	0	27	25	2
81	34	1	45	8	0	1	9	0	4	20	2
82	30	0	11	21	1	6	28	0	8	12	2
83	26	0	84	5	10	2	17	0	22	4	2
84	24	1	63	9	9	7	25	0	7	22	2
85	31	0	368	8	9	9	26	0	27	13	2
86	21	0	192	4	14	21	39	0	42	25	2
87	48	0	6	14	16	4	34	0	3	22	2
88	20	0	3	23	11	11	45	0	9	13	2
89	37	0	7	15	8	5	28	0	15	21	2
90	54	0	95	13	20	19	52	1	24	39	3
91	33	0	178	11	32	14	57	1	21	30	3
92	31	0	82	10	13	18	41	1	21	19	3
93	32	1	10	28	14	22	64	1	41	25	3
94	44	0	384	23	25	16	64	1	44	34	3

APPENDIX 5 ANOVA SUMMARY TABLES FOR IES-R STUDY

Analysis of variance summary tables for non-clinical, clinical PTSD and clinical non-PTSD groups on IES-R Intrusion, Avoidance, Hyperarousal and Total scale scores.

Dependent variable: IES-R Intrusion scores

Source	Sum of Squares	df	Mean squares	F-ratio	Prob.
Between groups	1350.12216	2	675.06108	13.98917	<.0001
Within groups	4391.29274	91	48.25596		
Total	5741.41489	93			

Dependent variable: IES-R Avoidance scores

Source	Sum of Squares	df	Mean squares	F-ratio	Prob.
Between groups	2539.01661	2	1269.50831	33.7309	<.0001
Within groups	3424.90892	91	37.63636		
Total	5963.92553	93			

Dependent variable: IES-R Hyperarousal scores

Source	Sum of Squares	df	Mean squares	F-ratio	Prob.
Between groups	1678.56094	2	839.28047	31.6645	<.0001
Within groups	2411.99225	91	26.50541		
Total	4090.55319	93			

Dependent variable: IES-R Total scale scores

Source	Sum of Squares	df	Mean squares	F-ratio	Prob.
Between groups	16044.6653	2	8022.33265	43.74423	<.0001
Within groups	16688.65385	91	183.3918		
Total	32733.31915	93			

APPENDIX 6 STUDY 3: DAWS PILOT STUDY RAW DATA

ITEM 1	ITEM 2	ITEM 3	ITEM 4	ITEM 5	ITEM 6	ITEM 7	ITEM 8	ITEM 9	ITEM 10	ITEM 11	ITEM 12	ITEM 13	ITEM 14
2	2	2	1	0	0	2	0	1	1	2	3	2	0
3	3	2	1	2	3	2	0	3	3	3	2	2	1
0	1	1	2	1	0	0	3	3	1	3	3	3	3
0	0	0	0	1	1	1	3	3	2	3	3	3	1
3	0	2	2	1	1	2	1	3	3	2	3	3	3
0	0	2	0	0	0	1	1	3	0	1	3	0	0
2	3	3	3	3	3	3	3	3	3	3	3	3	3
0	0	0	2	1	0	0	0	1	1	2	0	1	1
0	3	3	2	3	3	3	3	3	3	3	1	2	3
3	3	3	2	1	3	2	2	1	3	2	0	3	3
1	1	2	1	2	2	2	2	1	1	1	1	1	0
2	3	3	2	2	3	3	3	3	3	2	0	3	3
1	0	1	1	1	1	1	2	2	3	3	3	3	3
0	0	1	0	0	1	1	0	2	1	1	0	0	0
0	1	2	1	2	1	3	3	3	3	3	3	3	3
0	2	2	2	2	3	3	3	1	3	3	1	3	2
0	0	1	2	1	1	0	0	3	0	0	0	0	0
0	0	1	1	1	1	1	1	1	0	1	0	0	1
2	2	3	3	2	1	3	3	3	3	3	3	3	3
0	1	2	0	0	1	2	0	2	1	0	0	0	1
1	0	1	1	0	1	1	1	1	1	1	0	1	1
0	0	3	1	1	2	2	3	3	3	3	0	1	0
1	0	0	0	0	0	1	0	2	2	1	0	1	0
0	1	3	2	0	1	1	3	2	0	1	0	3	3
0	1	2	1	0	1	1	0	0	0	2	3	0	0
3	0	0	0	0	1	0	0	3	3	2	0	0	0
0	0	1	0	0	1	0	0	2	1	1	0	1	1
0	0	0	0	0	0	0	0	1	0	1	0	1	0
0	0	3	1	1	2	2	0	2	2	2	0	1	0
0	0	1	1	0	0	1	1	2	2	1	1	1	0
0	0	1	1	0	0	0	2	2	3	3	3	2	1
2	2	2	1	2	2	1	1	2	2	2	0	0	1
0	0	1	0	0	1	0	0	1	1	2	0	0	0
1	1	1	1	1	1	1	2	2	0	1	1	1	1

APPENDIX 6 STUDY 3: DAWS PILOT STUDY RAW DATA

ITEM 1	ITEM 2	ITEM 3	ITEM 4	ITEM 5	ITEM 6	ITEM 7	ITEM 8	ITEM 9	ITEM 10	ITEM 11	ITEM 12	ITEM 13	ITEM 14
0	0	1	0	0	0	0	0	0	1	0	0	0	0
0	0	1	0	1	0	0	3	2	2	3	0	3	3
0	0	0	1	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	1	0	0
0	0	2	2	2	1	3	1	1	2	2	0	1	1
0	0	0	0	0	0	0	0	0	0	2	2	0	0
2	0	0	0	0	0	0	0	1	1	1	0	0	0
0	1	0	0	0	0	0	0	1	0	2	0	1	0
0	0	2	1	1	1	0	0	0	0	2	2	1	0
0	0	2	0	0	1	2	0	1	0	0	0	0	0
0	1	2	1	0	2	1	2	2	2	2	0	1	1
0	0	0	0	0	0	0	0	0	0	1	1	0	0
0	0	0	0	0	0	0	0	2	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	1	0	0	0	1	0	0	0	0
1	1	2	1	2	1	1	2	2	3	2	0	1	2
0	1	2	1	0	0	0	0	0	1	0	0	1	0
1	0	0	0	0	0	0	1	1	2	1	0	0	0
0	1	1	1	1	0	1	1	2	0	1	0	1	0
0	0	1	0	0	0	0	2	2	2	2	2	2	0
0	0	1	0	0	1	0	2	1	2	2	0	2	0
0	0	2	0	0	0	2	1	0	0	1	0	1	0
0	0	1	0	1	1	1	0	0	0	0	1	0	1
0	1	3	1	1	1	3	3	3	3	3	2	2	2
0	0	1	0	0	2	1	0	0	2	1	0	0	0
0	0	1	1	1	1	1	1	2	1	1	0	0	0
1	1	2	1	1	0	0	1	1	0	1	0	1	1
0	0	1	1	0	0	0	0	1	0	0	0	1	0
0	0	0	0	0	2	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	2	0	0	1	0
0	0	0	0	0	0	0	0	1	1	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 6 STUDY 3: DAWS PILOT STUDY RAW DATA

ITEM 15	ITEM 16	ITEM 17	ITEM 18	ITEM 19	ITEM 20	ITEM 21	ITEM 22	ITEM 23	ITEM 24	ITEM 25	ITEM 26	ITEM 27	ITEM 28
1	2	1	1	1	2	1	3	0	1	1	0	1	0
0	1	0	3	2	3	3	3	3	3	2	3	0	0
0	3	1	0	2	1	1	3	3	2	3	3	3	3
1	3	0	0	0	0	1	1	1	2	0	2	3	1
2	2	1	2	2	2	1	3	3	3	3	3	2	1
0	2	0	2	0	1	0	1	1	1	2	1	2	0
2	2	1	1	1	1	2	3	3	3	1	1	2	0
1	0	1	0	0	1	1	1	1	2	1	1	1	1
2	3	2	2	3	2	3	0	1	0	0	3	2	1
1	3	0	2	0	3	0	3	2	2	0	2	3	1
0	1	0	1	1	1	1	0	0	0	0	1	1	1
0	1	1	2	3	3	2	0	1	1	1	1	1	0
2	2	1	1	2	1	1	3	2	1	2	3	2	2
0	1	0	1	1	0	0	0	0	1	0	0	0	0
1	1	1	0	1	1	0	0	0	0	1	3	3	3
0	3	3	3	2	2	2	0	0	0	0	2	0	0
0	3	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	2	1	2	1	0	0	0	1	0	1
2	2	2	1	2	2	3	3	3	3	3	1	1	1
0	2	1	0	0	0	1	0	0	0	1	1	0	0
0	2	1	1	2	1	1	1	1	2	1	1	0	0
0	3	0	3	3	3	0	2	0	0	0	1	2	2
0	1	0	0	0	0	2	1	0	1	0	0	1	0
2	2	0	2	2	0	2	0	0	1	0	2	2	2
1	0	1	0	0	1	0	0	0	0	0	0	0	0
0	0	0	3	0	0	0	0	0	2	0	0	0	2
0	0	0	0	0	0	0	1	0	1	0	0	1	0
0	1	0	0	0	0	0	2	2	1	0	1	1	0
0	0	0	0	0	0	0	1	0	0	1	0	0	0
0	1	0	0	0	0	0	1	0	0	1	0	1	0
0	0	0	0	0	1	1	2	0	0	0	0	2	0
1	3	1	1	1	1	1	2	1	1	2	1	1	1
0	0	0	1	0	0	0	2	0	2	1	0	1	0
0	1	0	0	0	0	1	0	0	0	0	1	1	0

ITEM 15	ITEM 16	ITEM 17	ITEM 18	ITEM 19	ITEM 20	ITEM 21	ITEM 22	ITEM 23	ITEM 24	ITEM 25	ITEM 26	ITEM 27	ITEM 28
0	0	1	0	0	0	0	0	0	0	0	3	2	0
2	0	0	0	0	0	1	2	1	3	0	0	1	1
1	0	0	0	0	1	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	3	1	3	0	0	3	1
0	2	1	2	3	1	1	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	1	0	0	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	0	0	0	0	0	0	0	0	0	0	0
2	1	1	0	0	0	2	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	0	1	0	1	0
1	1	1	1	1	0	0	0	0	0	0	0	0	0
0	1	1	2	2	1	0	0	0	1	1	0	0	0
1	1	1	1	2	1	1	1	1	1	1	1	1	1
0	1	1	0	1	1	1	3	2	2	0	2	2	2
0	0	0	0	0	0	0	1	0	0	0	0	0	0
1	0	0	1	0	0	1	2	1	1	2	1	1	1
0	1	0	0	1	0	0	0	0	0	0	2	2	2
0	2	0	2	0	0	0	1	1	0	0	0	0	0
0	1	0	2	0	0	2	0	0	0	0	2	0	0
2	2	0	0	0	0	1	1	0	0	0	2	1	0
1	1	1	1	1	2	1	0	0	0	0	2	2	2
0	1	0	1	1	0	0	3	1	1	0	1	1	1
0	1	0	0	0	0	0	1	0	1	0	0	0	0
1	1	0	0	0	0	1	0	0	0	0	0	0	0
1	0	0	0	0	0	1	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	1	0	0	1	0	0	0	0	0	0
0	0	1	1	0	1	0	1	0	0	0	0	0	0
0	0	0	0	3	0	0	0	0	0	0	0	0	0
0	0	0	0	3	0	0	0	0	0	0	0	0	0

APPENDIX 6 STUDY 3: DAWS PILOT STUDY RAW DATA

ITEM 29	ITEM 30	ITEM 31	ITEM 32	ITEM 33	ITEM 34	ITEM 35	ITEM 36	ITEM 37	ITEM 38	ITEM 39	ITEM 40	ITEM 41	ITEM 42
0	0	1	0	0	1	1	2	0	0	1	0	1	3
0	3	3	0	3	3	3	3	2	3	0	3	2	3
3	2	3	3	1	3	3	0	3	2	0	3	3	0
1	3	3	0	0	2	2	0	3	1	0	1	2	0
1	1	3	2	1	3	3	3	0	0	2	2	0	3
0	0	1	0	1	3	3	0	1	2	1	1	0	3
1	2	3	1	2	2	2	1	2	1	1	2	1	1
1	1	2	1	0	1	1	2	1	1	1	1	1	1
2	1	1	1	0	1	2	0	1	1	0	2	3	0
2	0	3	1	0	2	0	1	3	1	0	2	3	3
1	0	1	1	0	0	1	0	0	0	1	1	1	0
1	0	0	0	0	1	2	0	0	2	0	0	0	1
1	3	2	0	3	0	3	1	2	2	0	3	3	0
0	0	1	0	0	0	1	0	0	0	0	0	0	0
3	1	1	0	2	2	2	0	1	3	2	3	3	0
1	0	2	2	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	3	0	1	0	1	0	2	0
0	2	0	2	0	2	0	0	0	0	0	0	0	0
0	2	2	3	2	1	1	1	3	1	0	1	1	2
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	1	1	0	0	0	0	0	1	1
0	0	2	0	0	0	0	0	0	2	0	2	1	0
0	0	2	0	0	1	1	1	0	0	0	0	0	0
1	1	1	1	0	0	0	0	0	1	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	2	2	0	0	0	0	0	0	0
0	0	1	0	0	0	1	0	0	0	0	0	0	0
1	0	1	1	0	0	0	1	0	0	0	0	1	0
0	0	0	0	0	1	1	0	0	0	0	0	0	0
0	0	1	0	0	1	1	0	0	0	0	0	0	0
0	0	3	0	0	2	2	0	0	1	0	0	0	0
1	0	1	2	1	2	1	1	1	1	1	1	1	1
0	0	1	0	0	0	0	0	1	0	0	0	0	0
1	0	0	1	0	1	1	0	0	0	0	0	0	0

APPENDIX 6 STUDY 3: DAWS PILOT STUDY RAW DATA

ITEM 29	ITEM 30	ITEM 31	ITEM 32	ITEM 33	ITEM 34	ITEM 35	ITEM 36	ITEM 37	ITEM 38	ITEM 39	ITEM 40	ITEM 41	ITEM 42
0	0	0	0	0	0	3	0	0	0	1	0	0	3
0	2	3	3	0	1	1	3	0	0	0	0	3	0
0	0	0	0	0	1	1	0	1	1	1	1	1	0
0	0	3	0	3	0	1	1	0	0	0	0	0	1
0	0	0	0	0	1	1	1	1	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	1	1	1	0	0	1	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	2	0	0	1	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	1	0	1	1	0	0	0	0	0	0	0
0	0	0	0	0	1	1	0	0	0	0	1	0	0
0	0	1	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	1	0	0	0	0	0	0	1
1	1	1	2	1	2	1	0	0	0	0	0	2	1
1	1	2	0	2	2	2	0	1	1	1	1	2	2
0	0	0	1	0	2	2	0	1	0	0	0	0	0
0	0	1	0	0	1	2	0	1	0	0	0	0	2
2	2	2	0	2	2	1	0	1	2	0	2	2	0
0	0	1	1	0	1	2	1	1	1	1	2	0	0
0	0	0	0	0	0	0	0	0	2	0	0	0	0
0	0	0	0	0	2	2	1	0	3	0	2	1	0
2	1	1	0	2	1	2	1	2	2	2	3	2	1
1	0	0	2	0	1	1	1	1	1	0	2	0	1
0	0	0	0	0	0	1	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	1	0
0	0	1	0	0	0	1	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 6 STUDY 3: DAWS PILOT STUDY RAW DATA

ITEM 43	ITEM 44	ITEM 45	ITEM 46	ITEM 47	ITEM 48	ITEM 49	ITEM 50	ITEM 51	ITEM 52	ITEM 53	ITEM 54	ITEM 55	ITEM 56
2	3	2	0	3	1	1	2	1	2	2	2	0	3
3	3	3	0	3	3	3	3	0	3	3	3	3	3
0	3	3	0	0	0	0	0	3	0	0	3	3	3
0	0	2	0	0	3	1	1	3	2	1	2	3	1
3	3	3	1	3	2	1	2	1	3	3	3	2	3
3	3	0	0	3	3	3	3	0	2	1	3	0	0
1	2	3	1	3	3	3	3	3	3	3	3	3	3
0	2	2	1	3	0	0	1	0	1	1	2	0	2
0	3	3	3	3	2	2	3	3	3	3	3	3	3
0	1	3	0	3	3	3	2	3	2	3	1	3	1
2	3	2	0	1	1	1	0	1	1	1	2	1	1
3	3	3	0	3	3	3	1	0	3	2	2	3	1
1	0	3	1	3	2	3	3	1	2	2	2	3	3
2	2	0	0	3	1	1	1	0	1	0	1	2	0
2	3	3	1	3	2	1	2	3	3	3	3	2	3
1	1	3	0	2	1	1	1	2	2	2	1	3	1
1	2	0	0	2	0	0	2	2	2	0	3	0	0
0	0	2	1	0	0	0	1	1	1	1	1	0	1
1	2	3	2	2	3	3	3	3	2	3	3	3	3
1	1	1	0	0	0	0	0	2	1	2	2	0	0
1	1	1	0	1	2	1	1	1	2	2	1	1	0
3	3	0	0	3	3	0	3	0	3	3	0	3	0
0	0	0	0	1	1	2	2	2	1	2	2	1	0
1	1	2	2	3	3	3	0	2	3	1	2	1	1
0	1	0	0	1	0	0	1	0	0	1	0	0	0
3	3	0	0	3	3	3	3	0	3	3	2	2	0
1	1	1	0	2	1	1	1	0	1	1	1	1	1
1	1	0	0	1	0	0	1	0	1	0	1	0	0
3	3	0	0	2	2	2	3	0	2	2	2	0	0
0	0	1	0	2	0	0	0	0	1	0	1	0	0
3	3	2	0	3	3	3	3	2	3	3	3	3	0
3	3	3	0	3	3	3	3	0	3	3	3	0	3
0	1	1	0	1	2	2	2	0	2	2	2	1	1
2	2	1	0	0	0	0	1	1	0	0	1	0	1

APPENDIX 6 STUDY 3: DAWS PILOT STUDY RAW DATA

ITEM 43	ITEM 44	ITEM 45	ITEM 46	ITEM 47	ITEM 48	ITEM 49	ITEM 50	ITEM 51	ITEM 52	ITEM 53	ITEM 54	ITEM 55	ITEM 56
0	0	2	0	0	3	3	3	1	2	2	0	1	0
2	2	3	1	3	2	3	2	3	3	3	3	2	1
1	0	0	1	0	0	0	0	1	0	0	0	0	1
0	0	1	0	1	1	0	1	1	1	1	1	0	2
0	0	1	0	0	1	0	1	1	2	2	1	0	0
1	0	0	0	0	0	0	1	1	0	1	1	0	0
0	0	0	0	0	0	0	0	0	2	2	2	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1	1	1	1	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	1	0	0	2	1	1	2	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	3	0	0	2	2	1	2	0	3	2	1	0	0
3	3	3	0	3	3	3	3	1	3	3	3	3	3
1	1	1	0	3	0	3	2	0	3	3	3	3	2
2	0	1	0	3	1	0	2	0	1	1	1	0	1
1	2	1	0	1	0	0	0	0	0	0	1	0	0
2	2	2	0	3	2	2	2	0	2	2	2	2	2
2	2	1	0	2	2	1	2	0	2	2	1	1	1
0	0	0	0	2	0	0	0	1	1	0	0	0	0
0	0	1	0	2	0	0	0	0	1	0	0	0	0
3	3	3	0	3	3	2	3	3	3	3	3	3	3
3	3	2	0	2	2	2	1	0	1	1	2	1	0
2	2	1	0	1	1	0	1	0	1	1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	0
2	1	2	0	2	0	0	0	0	0	0	1	0	1
1	1	0	0	2	0	0	1	0	0	1	0	0	0
0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	3	0	0	3	0	0	0
0	0	0	0	0	0	0	3	0	0	3	0	0	0

ITEM 57	ITEM 58	ITEM 59	ITEM 60	ITEM 61	ITEM 62	ITEM 63
1	1	0	0	1	2	0
3	3	3	3	3	3	0
0	0	0	3	3	0	0
0	0	2	2	2	0	0
2	2	3	2	3	3	0
3	1	3	2	2	0	0
1	1	3	3	3	1	3
3	0	1	2	2	0	0
2	2	3	2	3	0	0
3	2	0	1	1	3	0
0	2	1	1	1	2	1
3	2	3	2	2	2	0
3	0	1	1	0	1	0
0	1	0	0	1	1	0
1	0	0	1	0	0	0
0	0	1	0	1	1	1
2	2	0	2	2	0	0
0	0	0	1	0	0	0
1	1	3	1	2	1	0
0	0	0	0	0	0	0
0	1	1	0	1	1	0
3	0	0	0	0	0	0
0	0	2	1	2	0	0
0	0	3	1	1	0	0
0	0	0	0	1	0	0
2	0	2	0	0	0	0
2	0	0	0	1	0	0
0	0	0	0	0	0	0
1	0	2	0	2	0	0
0	0	1	1	1	0	0
3	0	3	1	3	0	0
1	0	1	1	1	1	0
1	0	1	1	0	0	0
0	0	0	1	0	0	0

ITEM 57	ITEM 58	ITEM 59	ITEM 60	ITEM 61	ITEM 62	ITEM 63
0	2	2	1	2	0	0
3	0	0	1	0	0	0
0	0	0	1	0	0	0
0	0	0	0	1	0	0
0	0	0	0	0	1	0
0	0	0	0	0	0	0
0	0	0	1	0	0	0
0	0	0	0	0	0	0
0	0	1	1	1	0	0
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	0	0	0	0	0	1
0	0	0	0	0	0	0
0	0	0	0	0	0	0
2	1	1	0	0	1	0
3	3	3	0	3	1	0
3	1	3	2	1	0	0
3	1	2	1	1	1	0
0	0	1	1	1	0	1
3	0	2	2	2	0	1
1	0	1	1	0	1	0
0	0	0	0	0	0	0
1	1	0	3	0	0	0
1	0	1	1	1	0	0
1	0	1	0	0	0	0
1	0	1	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
1	0	1	1	0	0	0
2	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

APPENDIX 7 DISTRESS AT WORK SCALE (DAWS-36) FINAL VERSION

DISTRESS AT WORK SCALE

The purpose of this questionnaire is to assess your levels of distress at work over the past week. There are no right or wrong answers. Please respond as honestly as you can to the statements.

Your responses to this questionnaire are confidential and will not be disclosed to your employer under any circumstances whatsoever.

Age:_____Sex:_____

Position/Occupation:_____Today's date:_____

Please respond by circling **one** of 0, 1, 2 or 3 for each statement as it applies to you **only over your last working week.**

0 = Not at all
1 = A little
2 = Quite a lot
3 = Very much

1.	I have been falling short of meeting my work targets.	0	1	2	3
2.	I have been getting less satisfaction than usual from my job.	0	1	2	3
3.	I have been feeling irritable with my colleagues.	0	1	2	3
4.	I have been having difficulty knowing how to go about my tasks at work.	0	1	2	3
5.	I have been enjoying my job less than usual.	0	1	2	3
6.	I have been feeling tense at work.	0	1	2	3
7.	I have been finding it difficult to be assertive with my colleagues.	0	1	2	3
8.	I have been feeling frustrated about my job.	0	1	2	3
9.	I have been thinking that some of my colleagues dislike me.	0	1	2	3
10.	I haven't been feeling valued by others at work.	0	1	2	3
11.	I have been having difficulty organising myself at work.	0	1	2	3
12.	I have been having difficulty concentrating on my tasks.	0	1	2	3
13.	I have been worrying about work at night.	0	1	2	3
14.	My self-esteem at work has been low.	0	1	2	3
15.	I have been feeling angry with some of my colleagues.	0	1	2	3
16.	I haven't been getting on well lately with certain colleagues.	0	1	2	3

17.	I have been thinking about looking for another job.	0	1	2	3
18.	I have been thinking that I have been treated unfairly by management.	0	1	2	3
19.	I have been thinking that my job isn't worthwhile.	0	1	2	3
20.	I have been having difficulty setting goals for myself at work.	0	1	2	3
21.	I have been thinking that my manager has been unhelpful.	0	1	2	3
22.	I have been avoiding addressing issues with management.	0	1	2	3
23.	I have been feeling humiliated at work.	0	1	2	3
24.	I have been feeling incompetent at my job.	0	1	2	3
25.	I have been putting off performing some of my tasks.	0	1	2	3
26.	I have been feeling unsupported at work.	0	1	2	3
27.	I have been looking for another job.	0	1	2	3
28.	I have been feeling less interested in my job than usual.	0	1	2	3
29.	I have been feeling persecuted at work.	0	1	2	3
30.	I have been feeling anxious about doing my job.	0	1	2	3
31.	I have been dreading going into work.	0	1	2	3
32.	I have been performing my tasks less efficiently than usual.	0	1	2	3
33.	I have been feeling less motivated than usual to do my job.	0	1	2	3
34.	I have been thinking that my manager dislikes me.	0	1	2	3
35.	I have been speaking negatively about my job.	0	1	2	3
36.	I have been complaining more than usual about my job.	0	1	2	3

APPENDIX 8 ANOVA SUMMARY OUTPUT FOR HOYT'S ANALYSIS

ANOVA summary table (Hoyt's analysis) for determining internal consistency of the DAWS

Source	Sum of Squares	df	Mean squares	F-ratio	Prob.
Between items	215.25373	35	6.15011	9.782	<.0001
Between cases	1194.62355	66	18.10036	28.79	<.0001
Error	1452.30182	2310	.6287		
Total	2862.1791	2411			

Reliability coefficient: Alpha = .96527

Standard Error of Measurement = .79291

APPENDIX 9 RAW DATA FOR DAWS TEST-RETEST RELIABILITY STUDY

RESPONDENT	TIME 1	TIME 2
1	70	65
2	71	58
3	45	48
4	47	40
5	25	24
6	26	25
7	17	11
8	8	12
9	59	58
10	63	60
11	58	55
12	4	6
13	19	17
14	25	12
15	53	52
16	64	60
17	67	55
18	9	12
19	29	18
20	46	42
21	16	16
22	18	23
23	62	45
24	13	18
25	59	44
26	33	30
27	23	27
28	22	26
29	54	47
30	7	18
31	12	24
32	21	30
33	23	25
34	68	52
35	69	60
36	53	38
37	33	21
38	45	46
39	12	15
40	31	48
41	22	27
42	50	51
43	15	20
44	38	33
45	66	59
46	12	15
47	5	8
48	82	96
49	26	21
50	25	25
51	85	72

APPENDIX 10 RAW DATA FOR DAWS VALIDITY STUDIES

R	AGE	SEX	INTERVAL	IESR-I	IESR-A	IESR-H	IESR-T	CASENESS	DAWS	BAI	BDI-II	EPI-E	SRSAW
1	37	1	96	5	5	1	11	0	70	29	45	6	1
2	35	1	3	10	25	19	54	1	71	28	26	11	1
3	29	0	4	13	12	11	36	0	5	6	13	19	0
4	26	1	6	13	4	14	31	0	45	23	26	15	1
5	47	1	95	0	0	2	2	0	47	12	18	6	1
6	37	1	39	14	9	7	30	1	85	43	37	9	1
7	34	0	3	12	26	11	49	1	25	36	32	8	0
8	38	1	12	15	21	9	45	1	26	19	24	15	0
9	37	1	24	14	1	6	21	0	22	11	12	8	0
10	33	0	132	6	4	7	17	0	17	16	7	11	0
11	51	0	130	11	12	3	26	0	8	17	5	17	0
12	39	0	372	25	19	16	60	1	59	50	23	8	1
13	39	0	444	23	22	14	59	0	66	27	30	19	1
14	34	0	156	23	18	7	48	1	63	21	30	12	1
15	35	1	240	15	14	19	48	1	58	38	25	17	1
16	32	0	30	24	18	6	48	1	4	6	25	8	0
17	27	0	154	3	6	0	3	0	19	14	13	12	0
18	25	0	216	9	27	6	42	1	53	22	20	16	1
19	33	0	33	1	23	3	27	0	25	15	16	8	0
20	48	0	11	27	11	24	62	1	64	45	25	11	1
21	28	0	228	19	17	16	52	1	33	14	13	6	1
22	63	0	7	26	13	23	62	1	67	32	37	15	1
23	25	1	96	1	2	2	5	0	9	5	31	11	0
24	28	0	43	3	9	3	15	0	29	14	11	8	0
25	27	0	12	23	4	0	27	0	46	0	12	12	1
26	25	0	2	12	4	4	20	0	16	10	7	4	0
27	26	0	1	5	4	0	9	0	0	3	1	11	0
28	49	0	21	5	8	2	15	0	18	4	12	21	0
29	36	1	288	1	4	0	5	0	28	10	8	9	0
30	26	0	228	6	15	1	22	0	62	10	6	15	1
31	35	0	20	9	0	2	11	0	11	8	1	5	0
32	48	0	540	16	15	5	36	0	13	7	7	6	0
33	28	0	132	26	12	18	56	1	72	32	47	14	1
34	49	0	114	9	1	6	16	0	65	2	25	8	1

R	AGE	SEX	INTERVAL	IESR-I	IESR-A	IESR-H	IESR-T	CASENESS	DAWS	BAI	BDI-II	EPI-E	SRSAW
35	32	1	41	27	25	23	75	1	69	35	46	9	1
36	34	0	90	4	0	15	19	0	33	13	41	7	1
37	36	0	14	4	23	4	31	1	23	14	12	22	0
38	35	0	25	11	22	2	35	1	22	9	5	8	0
39	34	0	3	18	5	3	26	0	16	3	10	8	0
40	34	0	129	0	0	0	0	0	2	0	2	19	0
41	57	1	32	5	10	0	15	1	33	16	23	5	0
42	35	0	131	5	4	4	13	0	7	5	9	12	0
43	36	0	299	0	0	0	0	0	3	6	3	9	0
44	34	0	129	4	1	0	5	0	32	9	10	11	0
45	45	0	252	0	0	2	2	0	40	1	4	9	1
46	35	0	16	16	11	1	28	0	12	15	19	13	0
47	36	0	25	17	10	9	36	0	4	12	25	7	0
48	24	0	48	7	16	10	33	1	85	32	34	6	1
49	31	1	66	12	13	16	41	0	68	18	45	8	1
50	27	0	12	7	15	11	33	0	69	40	42	11	1
51	34	0	11	16	9	6	31	1	53	17	29	9	1
52	26	1	216	5	0	2	7	0	33	4	18	9	0
53	33	1	35	9	10	5	24	0	45	4	20	7	1
54	42	0	12	0	0	0	0	0	7	2	2	15	0
55	33	0	60	1	3	0	4	0	20	7	11	9	0
56	25	0	47	11	6	2	19	0	12	4	12	6	0
57	32	0	360	1	6	4	11	0	31	8	13	9	0
58	57	0	636	13	14	2	29	0	21	28	14	11	0
59	27	0	5	15	7	7	29	0	22	14	5	5	0
60	39	0	300	9	12	11	32	1	50	19	18	14	1
61	36	0	48	0	1	0	1	0	15	3	1	9	0
62	48	0	127	1	2	2	5	0	38	17	14	12	1
63	38	0	120	2	1	1	4	0	23	3	8	8	0
64	27	0	155	9	9	3	21	0	11	6	7	7	0
65	33	1	263	1	2	1	4	0	21	7	0	15	0
66	58	0	598	2	3	1	6	0	12	3	5	7	0
67	24	0	58	0	1	1	2	0	7	3	0	10	0
68	28	0	175	1	2	0	3	0	54	12	13	8	1

APPENDIX 10 RAW DATA FOR DAWS VALIDITY STUDIES

R	AGE	SEX	INTERVAL	IESR-I	IESR-A	IESR-H	IESR-T	CASENESS	DAWS	BAI	BDI-II	EPI-E	SRSAW
69	44	0	72	17	21	8	46	1	31	21	23	8	0
70	32	1	58	8	4	0	12	0	27	1	4	10	0

APPENDIX 11 COURSE MANUAL FOR CASE STUDY

CRITICAL INCIDENTS AND THEIR TRAUMATIC IMPACT:

THEORY, INTERVENTION AND ASSESSMENT

A COURSE FOR THE CONTINUING PROFESSIONAL DEVELOPMENT OF

COUNSELLORS AND COUNSELLING PSYCHOLOGISTS

Trainer: Martin Fine

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PART 1: INTRODUCTION

1.1 Aims, objectives and evaluation of the course

Aims

The aim of this training programme is to develop your theoretical understanding and practical skills necessary for the safe and effective conduct of a debriefing following a critical incident.

Objectives

By the end of the course you should:

(a) have a theoretical awareness of trauma and its relationship to critical incidents

(b) be aware of the nature and potential impact of critical incidents

(c) be able to relate theory to practice in the conduct of debriefings

(d) be aware of the hazards and limitations of CISD

(e) be able to assess the traumatic impact of critical incidents on individuals

(f) be aware of the need for appropriate onward referral

Course evaluation

At the end of this course please fill in the course evaluation form. Your constructive comments and feedback will be used for development and modification of this course and would be greatly appreciated.

1.2 Overview of the course

The terms 'trauma' and 'critical incident' are frequently used interchangeably. This can lead to confusion at both theoretical and practical levels as it can be taken to imply that all those involved in a 'critical incident' will be traumatised.

Whilst 'trauma' refers to specific adverse effects of an incident on an individual, a 'critical incident' can be construed as an incident which has the potential for traumatising those either directly or indirectly involved. Although some incidents could reasonably be expected to be traumatic for most people, it is important to consider the fact that many events are traumatic to

some but not to others similarly involved with the event. Such individual differences suggest that trauma is 'in the eye of the beholder' and that it is logically and conceptually unsound to use the terms interchangeably.

This course has been designed with the above distinction in mind. It begins with a general description of trauma and an overview of the major psychological paradigms addressing it although for the purpose of this course, the emphasis is on a cognitive process approach. Against this background, the course then addresses critical incident stress debriefing (CISD). The intention is to provide you with basic practical skills to use from an informed critical perspective so that your debriefing sessions are as safe and as beneficial as possible to those concerned.

The final part of the course addresses the qualitative and quantitative assessment of post-traumatic stress so that when participants in debriefings are distressed appropriate intervention or onward referral can be made.

At various points in the course manual discussion topics and exercises are included. You will be asked to form small groups for focused discussion of these topics and to feedback your thoughts and feelings to the larger group via a spokesperson. These exercises are designed to enhance learning through 'depth processing' and to take into account the experience of participants.

Every effort has been made to fully reference the course manual. To avoid interrupting the text and to facilitate reading, references appear in the text as numerical superscripts and are listed numerically at the end of the manual.

PART 2: BACKGROUND AND PERSPECTIVES

2.1 Traumatic events in military and civilian contexts

Records of soldiers' stress reactions to war date from ancient times. Three thousand years ago, Hori, an Egyptian combat veteran wrote about the intense feelings he experienced before going into battle. The Greek historian, Herodotus, in writing of the battle of Marathon in 490 BC, reports an Athenian soldier going permanently blind when the soldier next to him was killed. Herodotus also reports that at the battle of Thermopylae pass in 480 BC, the Spartan commander, Leonidas, had to dismiss his men from the battle because of fatigue and low morale.

The Anglo Saxon Chronicle recounts that in 1003 AD, in a battle between the English and the Danes, the English commander, Alfred, became too ill to lead his men.

During the siege of Gibraltar in 1727, a soldier's diary describes a state of extreme physical fatigue which had caused soldiers to lose their ability to understand the simplest of instructions. These soldiers refused to defend the city despite the threat of whippings by those in authority.

During the American Civil war, military physicians diagnosed many cases of functional disability as the result of fear of battle and the stresses of military life. In 1863, the number of insane soldiers wandering around was so great that there was a public outcry leading to the establishment of the first US military hospital for the insane in 1863.

There are records of soldiers being traumatised and hallucinating at the battle of Little Big Horn between the US cavalry and Indians. Some of Major Reno's troops were too terrified to defend themselves. The Indians thought them cowards and refused to kill them as it would have been a victory without honour.

In 1905, during the Russian-Japanese war, the Russians were the first army to acknowledge that mental collapse was a direct consequence of war stress and developed the principle of treating soldiers at the front line with a view to returning them to active duty.

Although World War I generated stress theories based on a model of the mind, these never gained wide acceptance. Simplistically, Freud postulated 'war neurosis' was brought on by an inner conflict between a soldier's 'war ego' and his 'peace ego'.

By the end of the first World War US psychiatrists stationed overseas began to realise that casualties were not suffering from 'shell shock' and that it was emotions and not physiological brain damage that was causing soldiers to collapse. Unfortunately they continued to attribute such breakdown to weak character.

In the second World War it became clear that it was not just the 'weak in character' who were breaking down. The terms 'combat fatigue' and 'combat exhaustion' replaced 'combat neurosis' suggesting that rest would be enough to restore soldiers to good health.

The USA-Vietnam war produced a proliferation of research into post-traumatic stress, and it was observed that intrusive imagery, thoughts and emotions may lead to fear, panic or possible violent acting out in veterans[1].

Hendin et al. (p. 165)[2] describe the phenomenology of flashbacks in Vietnam combat veterans:

> **In reliving experiences the individual is awake but appears to be in a state of altered consciousness and often has subsequent amnesia for what takes place. The experiences last from a few minutes to several hours and can usually be distinguished from startle reactions in response to environmental stimuli that momentarily reinvoke traumatic combat events....**

Spouses of Vietnam veterans have frequently described them as cold, unfeeling and uncaring and it has been suggested[3] that the thawing of frozen emotions might restimulate traumatic memories and that inner peace is gained through the maintenance of an internal 'dead zone'.

Many combat veterans have been observed[4] to have the following difficulties:

- getting on with people
- getting emotionally close to someone
- family problems
- marital problems
- inability to express feelings to those they care about
- sexual problems

The difficulties and dysfunctional behaviour described in war veterans has also been noted in civilian contexts.

In his diary Samuel Pepys gives an account of PTSD in writing of the great Fire of London in 1666. Although his own home was untouched, Pepys was unable to sleep for days after the fire and his diary records general feelings of anger and discontent over the next four months.

In modern civilian life, post-traumatic stress reactions frequently occur as a result of road traffic accidents[5] and violent crime[6] such as rape and assault. Other potentially traumatic events include mass transport disasters such as the sinking of the cruise ship, *Jupiter*, in which more than 50% of survivors subsequently developed PTSD.[7]

Current prevalence of PTSD is an estimate of people currently experiencing PTSD symptoms. Life-time prevalence is an estimate of the number of people who have ever had such symptoms. Current and life-time prevalence of PTSD varies according to the populations being studied. Estimates for current prevalence have varied from 1% to 15% and for life-time prevalence from 4% to 12%.[8]

There is evidence, therefore, that PTSD is a common disorder and counsellors and other mental health professionals engaging in preventative or therapeutic interventions need to be aware of the phenomenon and appropriate procedures for addressing it. PTSD is proving to be a valid construct for research and for the diagnosis and treatment of its associated sequelae.

2.2 Post-Traumatic Stress Disorder: description

For over a century, a post-traumatic syndrome has been described in various ways with emphasis shifting from traumatic response to stimulus event and then reverting to emphasis on traumatic response. Early descriptions such as 'nervous shock'[9] and 'traumatophobia'[10] acknowledged the similarity of symptoms across different types of traumatic events, whereas later descriptions such as 'shell shock'[11], 'rape trauma syndrome'[12] and 'survivor syndrome'[13] emphasised the nature of the event. Later recognition that the syndrome manifests across a diverse range of distressing events led to the diagnostic category of 'Post-traumatic stress disorder' (PTSD) in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III, 1980)[14]. Use of the term continued in DSM-IIIR[15] and DSM-IV[16]

In DSM IV, PTSD is described as follows:

> **The essential feature of this disorder is the development of characteristic symptoms following a psychologically distressing event that is outside the range of usual human experience (i.e., outside the range of such common experiences as simple bereavement, chronic illness, business losses, and marital conflict). The stressor**

producing this syndrome would be markedly distressing to almost anyone, and is usually experienced with intense fear, terror and helplessness. The characteristic symptoms involve re-experiencing the traumatic event, avoidance of stimuli associated with the event or numbing of general responsiveness, and increased arousal. The diagnosis is not made if the disturbance lasts less than one month.

The inclusion of identifiable stressors (stimuli) and fear responses in the DSM IV description suggests that PTSD might just be a phobic disorder which would respond well to behavioural interventions. In addition, one might expect that the repeated re-experiencing of memories of the traumatic event would result in habituation with a concomitant decrement in anxiety-related symptomatology. This, however, is not necessarily so.

PTSD differs from other anxiety disorders in important respects. Whereas PTSD involves an identifiable precipitating event, this is not necessarily the case for many simple phobics or agoraphobics. In simple phobias, removal of the aversive stimulus results in reduction of anxiety. This is not so in PTSD where disordered arousal may persist in the absence of the traumatic stimulus. Even agoraphobics who report fear in a variety of situations are able to avoid these situations at least some of the time. By contrast, in PTSD the unpredictable nature of circumstances leading to disordered arousal makes escape difficult, if not impossible.

The intrusive imagery (nightmares and flashbacks), disordered arousal (sleep disturbance and startle response), cognitive disturbance (impaired concentration) and affective disturbance (restricted range of affect) - the hallmarks of PTSD - are not typical of phobics and agoraphobics.

Given these differences in symptomatology, there is a strong case for regarding PTSD as a syndrome distinct from other anxiety disorders.

2.3 The general course of PTSD

Debriefers need to be aware of the general course of PTSD if they are to make sense of its varied manifestations in different groups at different times. This is essential for diagnosis, assessment and interventions.

Horowitz [17] has provided a general stage outline of the course of PTSD. It is important to bear in mind that this stage model is descriptive and based on subjective impressions rather than on

empirical data. It nevertheless provides practitioners with some guidance as to what they may encounter in traumatised people.

Horowitz's stage model of PTSD

■ **Phase I: Outcry**

This is the immediate response to the traumatic event.

Responses include: Panic, dissociative reactions, reactive psychoses, and stunned uncomprehending daze.

■ **Phase II: Denial**

This is a period of denial and numbing which includes maladaptive avoidance such as withdrawal, drug/alcohol abuse, counterphobic frenzy, fugue states.

■ **Phase III: Oscillation**

This is characterised by oscillation between denial/numbing and intrusive thoughts, feelings and images and memories. The intrusive states include flooding and impulsive states, despair and reenactments.

■ **Phase IV: Working through**

In this phase the person faces the reality of the event. Intrusions become less intense and more manageable and denial/numbing lifts. It is in this stage that anxiety and /depressive reactions and physiological disruptions are manifested.

■ **Phase V: Relative completion of the response**

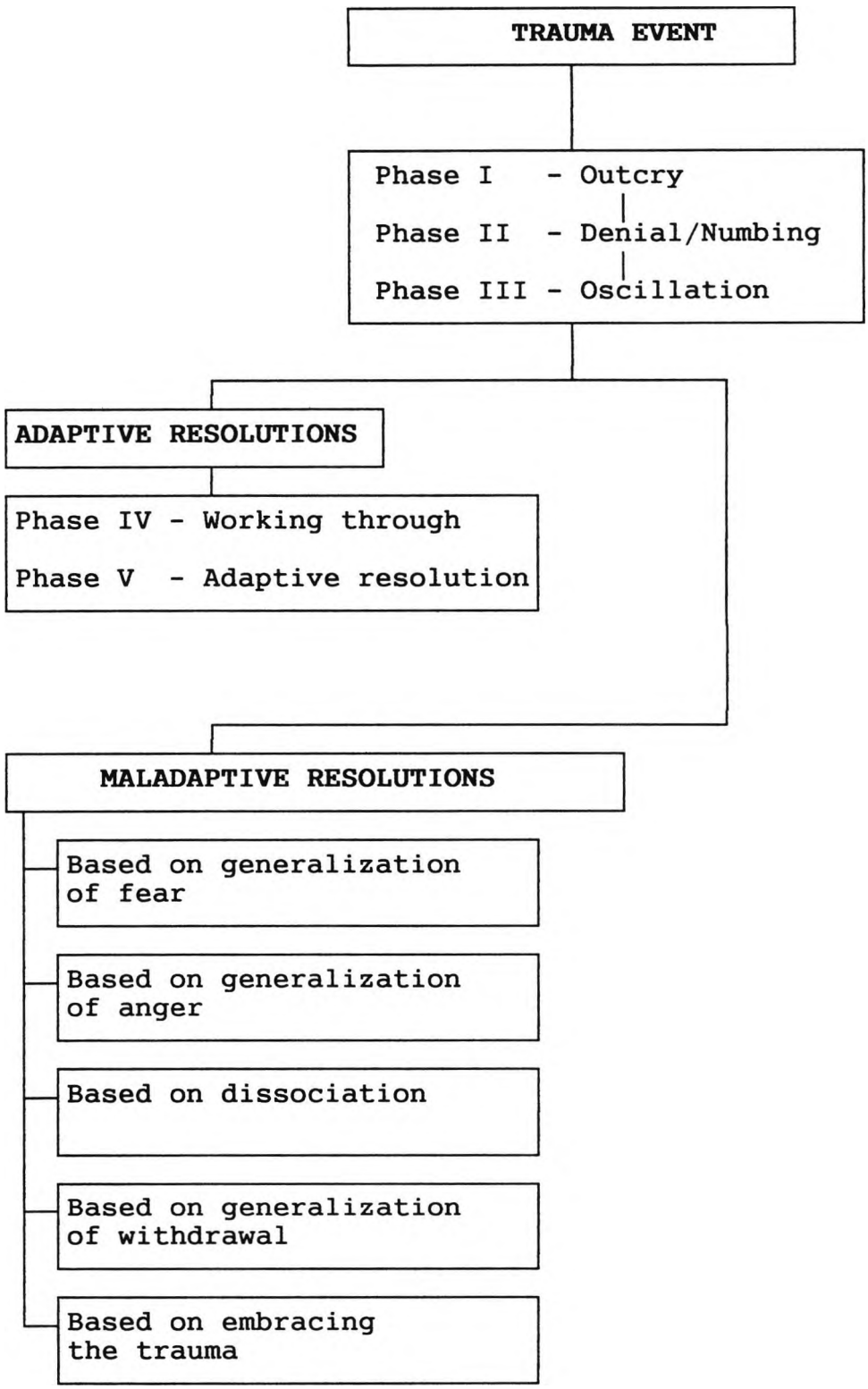
Completion may never be reached. The final state includes permanent alterations in character structure.

Critics of stage theory models have noted that most stage theories assume that there will be a final stage of resolution. However, there is considerable evidence that confronted with sudden loss, individuals are not always able to resolve this loss satisfactorily, and empirical research assessing affective states across time has tended not to support stage theories.[18, 19] This lack of support for a phase model suggests that it may be more accurate to plot the course of

PTSD across multiple trajectories[20] as shown in Figure 1. Here the branching point occurs after Horowitz's Phase III. One branch is adaptive, conforming to Horowitz's model; the other shows the maladaptive resolution of PTSD and can take on one of the five forms shown.

Note that the idea of 'maladaptive *resolution*' allows for the idea that changes in personality, however dysfunctional, represent an attempt on the part of the individual to come to terms with the traumatising event. In doing so, people change their beliefs about themselves and the world in maladaptive ways which help them cope with stress.

Figure 1: Possible trajectories in the course of PTSD (After Epstein)[20]



Beliefs and symptoms in successfully resolved trauma

A. Beliefs

1. The world may be unpredictable with some danger and uncontrolability, *within limits.*
2. The self is sometimes weak and helpless, *within limits.*
3. Others are sometimes dangerous, uncaring, weak or untrustworthy, *within limits.*
4. Ways to cope: varied, flexible, discriminating, and accepting of others; assimilation and accommodation.

B. Symptoms and Positive Consequences

1. Residual sensitivity to trauma-related cues
2. Reduced security
3. Increased awareness. A "sadder but wiser" person who has come to terms with some existential aspects of living, such as vulnerability, suffering, death, good and evil; independence and relatedness.

Beliefs and symptoms in maladaptive resolutions of trauma

I.*Resolution based on generalization of the fear response*

A. Predominant beliefs

1. The world is dangerous
2. The self is weak and vulnerable
3. Others are dangerous or unhelpful
4. Ways to cope: vigilance and escape

B. Symptoms

1. Hyperalertness to danger of all kinds
2. Sensitivity to trauma-related cues
3. Chronic anxiety and elevated arousal
4. Psychosomatic symptoms

II. *Resolution based on generalization of the anger response*

A. Predominant beliefs

1. The world is malevolent
2. The self has been mistreated, deceived or betrayed
3. Others are unjust and untrustworthy
4. Ways to cope: be strong, defend self, attack enemies

B. Symptoms

1. Paranoid suspiciousness
2. Antisocial acting out

III. ***Resolution based on generalization of the withdrawal response***

A. Predominant beliefs

1. The world is dangerous, ungiving and uncontrollable
2. The self is unworthy, unlovable and self-sufficient
3. Relationships with others are dangerous
4. Ways to cope: reject others, rely on own resources

B. Symptoms

1. Withdrawal
2. Alienation
3. Incapacity for intimacy

IV. ***Resolution based on dissociation***

A. Predominant beliefs (two belief systems)

1. Dominant belief system: same as before trauma, but with the belief that trauma-relevant cues should be avoided.
2. Dissociated belief system: (same as for unresolved trauma)

V. ***Resolution based on embracing the trauma***

A. Predominant beliefs

1. The world is dangerous, malevolent, and lacking in meaning
2. The self is unloveworthy and lacking in purpose
3. Others are untrustworthy and objects to be manipulated
4. Ways to cope: avoid commitment, seek thrills, surmount fear by courting danger, change passive to active.

B. Symptoms

1. Unreasonable risk-taking
2. Antiphobic behaviour, seeking out trauma relevant activities
3. Lack of commitment and direction
4. Inability to establish intimate relationships.

2.4 Perspectives on trauma

Trauma has been addressed by a number of different paradigms. It is beyond the scope of this course to address all models. However, three major paradigms are outlined in order to provide an overview. These are: the psychodynamic approach, the learning theory approach and the cognitive approach.

2.4.1 The psychodynamic approach

In psychoanalytic theory, the term 'trauma' is used generically to refer to any totally unexpected experience which a person is unable to assimilate. The initial reaction to a psychological trauma is shock. Later effects are spontaneous recovery or the development of a 'traumatic neurosis'. A traumatic neurosis differs from other neuroses in that it has no unconscious meaning, and because of this, trauma-related dreams require no interpretation.[21]

Trauma is also used in a specific sense to refer to an anxiety-evoking experience which the person masters by using defence mechanisms. According to this model, a traumatic event produces anxiety which is followed either by spontaneous recovery or by the development of a 'psychoneurosis'. A psychoneurosis is deemed to differ from other neuroses in that the symptoms are interpretable as manifestations of a conflict between ego and id.

An infantile trauma is one which occurred in infancy or childhood and is assumed to have a causal role in a given neurosis. Infantile trauma may be the result of an acute experience (such as a physical attack or sexual assault), or it may arise from a chronic situation (such as prolonged separation from parents).

For Freud[22] all neurotic illnesses are the result of infantile traumata. Freud saw neuroses as disturbances of the ego and stated that the ego, while it is weak, immature, and incapable of resistance, fails to deal with problems which it could later readily manage.

This approach views a traumatic experience as a confrontation between the individual and his/her environment in which unbearable stimuli are encountered. The individual feels overwhelmed and cannot use his/her usual coping strategies to deal with the situation. These overwhelming affective responses produce an unbearable psychic state which threatens the personality structure resulting in a state of helplessness and consequent passivity.[23] Defences and coping strategies become disorganised leading to the disappearance of affective responses, apathy or depersonalisation.

A traumatic experience is conceptualised as having two broad sets of consequences: damage and a process of reparation. The nightmares and intrusive thoughts and images which characterize trauma are viewed as part of a reparative process in which the emotions occurring during the traumatic event become assimilated. Horowitz's phase model outlined above is in the psychodynamic tradition. It implies that individuals will tend to recover spontaneously from traumatic experiences. Unfortunately, the empirical evidence does not fully support this assumption. [18]

The psychodynamic approach has offered hypotheses to address the common clinical observation that many people continually relive their traumatic experiences. Freud saw the nightmares of soldiers in the First World War as a compulsive repetition - a developmentally primitive defence mechanism against being overwhelmed by emotions. The nightmares were seen as a recalling of the traumatic experience into consciousness in order to experience the anxiety that had been warded off during the event. Freud saw the recollection of these painful experiences which had been helplessly endured as contributing to the emotional assimilation of the trauma.

For Freud, the individual's attempt to recall his or her experiences is thwarted by painful emotions which trigger other defence mechanisms such as denial and repression. This results in an inner conflict between the defences. On this view, the repetition-compulsion is a defence against an overwhelming feeling of passive powerlessness resulting in re-experiencing the trauma and the denial is a defence against the difficult emotions accompanying the re-experiencing becoming conscious. This inner conflict was militates against assimilation of the traumatic experience. There is some evidence to suggest that re-experiencing seems to be dominant in those who have witnessed violence, and denial seems to be dominant in those who have physically experienced or participated in violence.[24]

Freud also noted that there were cognitive consequence of trauma. The person is confronted about aspects of human nature which were previously unknown. This knowledge is incompatible with the individual's former world-view and self-image and causes fear resulting in the repression of some memories of the experience.

In addition to its theoretical formulations, the psychodynamic approach has also offered insights into individual differences in coping strategies and drawn attention to the way in which traumatic events can trigger long-hidden emotional difficulties linked to normal developmental phases.

2.4.2 The learning theory approach

Learning theory attributes individual differences in reactions to prior learning. According to this approach, some of the consequences of exposure to a traumatic event such as intrusive thoughts, avoidant behaviour and increased physiological arousal are the result of learning processes. The essence of therapeutic intervention is to break the maladaptive and dysfunctional stimulus-response (S-R) and stimulus-stimulus (S-S) bonds which have been learnt.

The two major learning processes involved are classical conditioning and operant conditioning. In classical conditioning[25] a naturally occurring response such as a dog's salivation on exposure to food becomes associated with a previously neutral stimulus such as the sound of a bell or a flashing light. Given the right conditions, the dog will subsequently salivate on exposure to the neutral stimulus. In this example, the food has the status if an 'unconditional stimulus' (UCS) and the dog's salivation to the food is known as the 'unconditional response' (UCR). Once the dog starts salivating to the sound of the bell alone, a learnt association has been made between food and the bell and the sound takes on the status of a 'conditional stimulus' (CS) and the dog's salivation to the sound is known as a 'conditional response' (CR). It may be helpful to think of this as the dog salivating to the sound presented alone *on the condition that* the bell ringing is originally paired with the presentation of food.

In operant conditioning[26] the organism is reinforced for a certain behaviour. Positive reinforcement involves the organism being rewarded (e.g. food, money or praise) for a certain behaviour pattern; negative reinforcement is also rewarding in that an aversive stimulus such as pain or anxiety is terminated. When reinforcement is continually withheld, an extinction process follows in which the original behaviour terminates.

According to Mowrer's two-factor theory,[27] both classical and instrumental conditioning are involved in the acquisition of fear and avoidance behaviour. In the first stage, through classical conditioning, a previously neutral stimulus which has been paired with an unconditional fear eliciting stimulus (UCS) takes on fear eliciting properties, thereby becoming a conditional stimulus (CS). The pairing of the CS with another neutral stimulus then leads to the latter also acquiring aversive properties and eliciting a fear response.

This process of high order conditioning, along with stimulus generalization, leads to a large number of objects, events, thoughts, words and images having the capacity to trigger anxiety responses. The second stage involves instrumental conditioning. Here the organism is

reinforced for avoidance or escape responses through the reduction or termination of fear and discomfort.

A number of researchers have invoked two-factor theory to account for the symptoms of PTSD in, for example, war veterans[28] and rape victims.[29, 30]

It has been suggested[31] that where the root event is a life-threatening situation, a number of previously neutral stimuli may take on fear invoking properties for the person. Through high-order (S-S) conditioning the person subsequently becomes fearful of stimuli which were not present at the time of the life-threatening event. Thus the war veteran suffering from PTSD may show an exaggerated startle response to any sudden loud noises even though these noises were not present at the root event. The typical re-experiencing of the event through flashbacks, thoughts and nightmares etc. is maintained through high levels of generalization and high-order conditioning. However, because generalization and high-order conditioning do not adequately account for the nightmares experienced by those with PTSD, there is a need for a cognitive model.[32]

A model grounded in behavioural theory would predict habituation to repeated presentation of an aversive stimulus. Yet, despite the repeated re-experiencing of the traumatic event by PTSD sufferers, symptomatology does not decrease.[31] This may be attributable to the fact that intrusive thoughts and exposure to cues are of short duration because of avoidance reactions in the sufferer. This explanation is supported by research into flooding which shows that short exposures to aversive stimuli are less therapeutic than long ones.[33] [34]

PTSD symptomatology may persist despite repeated exposure to some CSs because survivors frequently do not recall all the cues that were involved in the root event. Such diminished recall may be due to avoidance of holding aversive information in memory.[31] In addition, cultural discouragement of emotional expression in men may inhibit some veterans from discussing traumatic events in detail. These men then have reduced or no exposure to certain cues (CSs). Many traumatised individuals are unable to account for long periods of time because of the difference in mood state at the time of the trauma and at the point of recall. There is experimental evidence[35] supporting the view that such discrepancies in mood can hinder recall.

A learning theory model has been invoked to account for anger and irritability in military veterans suffering from PTSD[31]. It may be that behaviours acquired during military training are

maintained in civilian life both through positive reinforcement (attaining desired rewards) and negative reinforcement (reduction of anxiety through anger expression).

Learning theory has also been used to formulate the genesis and maintenance of sexual difficulties in rape victims[36]. The assault is seen as a UCS evoking fear and anxiety. Sexual events associated with the assault then become CSs for anxiety. Generalization and higher order conditioning account for other sexual activities subsequently taking on fear eliciting properties. The instrumental component comes into play when the sufferer avoids sex or inhibits sexual feelings.

Similarly, conditioning has been used to account for rape victims' avoidance of therapy[30]. Through classical conditioning, stimuli associated with the rape take on the status of CSs and come to elicit fear. Stimulus generalization and second-order conditioning operate to produce a wide range of aversive stimuli for the victim so that words and images associated with the rape elicit anxiety. The victim becomes upset when recounting his/her experience and may then avoid therapy.

When brought to bear on PTSD, two-factor theory has considerable explanatory power. It accounts for previously neutral cues taking on aversive properties, why victims avoid situations that are not objectively dangerous and why dysfunctional avoidance persists. However, it does not explain why PTSD sufferers avoid more cues than do phobics and agoraphobics. It could be that the enhanced generalization in PTSD may be attributable to the greater severity of the event that precedes the onset of the disorder.[32] Alternatively it may be a function of the higher complexity of the CSs during events leading to PTSD.

Even so, the development of PTSD symptoms is not satisfactorily explained by the intensity and complexity of traumatic events. It has been found[37] that rape victims are more likely to develop PTSD if the attack occurred in a familiar place or was perpetrated by a familiar person. This suggests that the *perception* of predictability and controllability may also be determinants of PTSD.

S-S theory, to the extent that it invokes central representation, can overcome some of the limitations of traditional S-R learning theories. S-S theory can account for conditioning in the absence of the original CS. For example, it has been shown[38] that the impact of a CS which was originally paired with an aversive stimulus can be increased by exposure to a stronger aversive stimulus in the absence of the original CS. This would account for the manifestation of

increased PTSD symptomatology in some victims when they receive new aversive information some time after the traumatic event. A rape victim is reported[32] as not having developed fear or other symptoms until some months later when she found out that her assailant had killed his next victim. This type of post-trauma reaction again points to the importance of perception and the meaning of the event for the person.

In addition, it has been found[39, 40] that perceived threat is a better predictor of the development of PTSD than actual threat. This calls for a theory which goes beyond stimulus and response properties of an event and accommodates the meaning of the event for the individual.

Seligman's theory of 'learned helplessness'[41] can explain the passivity, apathy and helpless attitude sometimes manifested in the victims of traumatic experiences. Seligman conducted a series of experiments with caged dogs which received electric shocks and were not allowed to escape. These dogs became more prone to illness than dogs which had not been rendered helpless and exposed to pain. When the traumatized dogs were returned to the cage for more electric shocks but were allowed to escape the shocks by climbing over a barrier, they remained passive, lying down and whining. In contrast, the control group of non-traumatized dogs, when shocked and allowed to escape, rapidly did so. The traumatized dogs had learnt to be helpless. However, it was shown that this learned helplessness could be reversed by dragging the traumatized dogs over the barrier to the other side of the cage several times.[42]

According to Seligman's theory, learned helplessness is associated with four effects:

1. Reduced motivation to react actively. Helpless people tend to become passive with slow reactions and thinking. They believe that their actions will not have any effect on their aversive situation.
2. Reduced capacity to learn that their actions can lead to desired results.
3. Negative feelings such as fear, depression, emptiness and an absence of desires.
4. Self-reproach and a lowering of self-esteem.

The development of passiveness can be understood in terms of an extinction process occurring during the traumatic experience as none of the individual's behaviours during the traumatic event were followed by negative or positive reinforcement.

According to this formulation it follows that traumatised people should be helped to unlearn their helplessness.[43] In practical terms, where powerlessness was experienced leading to helplessness, the therapist should facilitate the client's regaining of empowerment.

With reference to human subjects, Seligman uses such terms as 'expectation', 'self-reproach' and 'self-esteem'. By invoking these terms Seligman renders his theory cognitive rather than purely behavioural.

As discussed above, there is evidence which indicates that the stimulus properties of an event are not in themselves sufficient for causing traumatic responses. This 'poverty of the stimulus' calls for cognitive mediators in the stimulus-response chain. If biological differences and conditioning cannot adequately account for the differences in individual reactions to distressing events, then we are obliged to address the meaning structure of the traumatized individual.

2.4.3 The cognitive approach

'Bottom-up processing' refers to data-driven processing where stimulus information in the environment enters the brain through sensory modalities and is encoded via various transducers *en route* to central cognitive systems. 'Top-down processing' can be understood as the individual's bringing established mental frameworks or schemas to bear on new data entering the cognitive system. Perception and the experience of meaning are considered to depend on both bottom-up and top-down processing.

The utility of this distinction for the therapist dealing with traumatised clients is that it accommodates the idea that an event has no inherent trauma valence. In other words, whilst some individuals may find a distressing event traumatic, others, by virtue of their preexisting schemas, may not. Such individual differences point to the resolution of traumatic responses through cognitive intervention.

According to cognitive models of post-trauma reactions, an individual will encounter a potentially traumatic situation with pre-existing schemas which contain information about the person's experiences, beliefs, assumptions and expectancies of future events.[44] People become traumatised by distressing incidents if they are confronted with information which is inconsistent with their existing schemas about their safety and invulnerability. After an individual has experienced being in mortal danger, his/her world-view may change. The world may now

be experienced as threatening. The individual's self-image may also change from being adequately powerful to powerless.

There seems to be consensus amongst theorists that for trauma reduction to take place, there must be a successful integration of the trauma into a schematic representation that restores feelings of security.[17,32,45,46] In order to function again properly, victims have to integrate their traumatic experiences into a revised world-view and self-image.

Horowitz[17] has argued that the processes of accommodation and assimilation are essential for recovery from trauma to occur. New information from the traumatic experience must be processed until it is assimilated into the existing cognitive framework, and preexisting schemas have to be modified in order to accommodate the new information.

However, for assimilation of threat-related information to take place, it is necessary for the person to be exposed to aversive stimuli, which, in turn, will result in increased arousal and motivation to avoid or escape such stimuli and trauma-related thoughts. The difficulty which the avoidance/escape tendencies present is that the traumatic event is then stored in active memory making it possible for elements of the event to continually trigger distressing and intrusive recollections.

The cognitive view of trauma can be seen as a development of the learning theory approach with emphasis on central representation. It assumes that behaviour is heavily determined by cognitive representation which can be conceptualized as inner speech or self instructions.[47]

Traumatic experiences instigate conditioning processes in which physiological reactions, cognitive representations and self-instructions become associated with previously neutral stimuli present during the traumatic event. Cognitive representations and self-instructions which may have been adequate at the time of the traumatic incident are frequently inadequate and inappropriate in subsequent situations and result in maladaptive behaviour.[48] This maladaptive behaviour can be altered when new self-instructions are acquired through observational learning.

The unconditional physiologically-based responses (UCRs) which occurred during the traumatic event can become associated with neutral stimuli and then take on the status of conditional responses (CRs). These conditioned physiologically-based responses in turn can become contingent with trauma-relevant stimuli encountered after the traumatic event and then

take on the value of conditional stimuli (CS's). From a cognitive perspective the CS's bring the representation of the UCS into awareness. For example, the increased heart-rate occurring during a traumatic attack on a dirt-road may become associated with the dirt-road at the time of the incident. When the individual sees other dirt-roads, these trigger the increased heart-rate once again. When the individual subsequently experiences an increased heart-rate under different circumstances, this reminds him of the attack.

The memory of the traumatic event interferes with other cognitive activities and both the physiological reactions and the memory of the traumatic event result in painful emotions such as disgust, aggression, and depression). The individual in the above example may be taking an examination (cognitive activity) and experience an increased heart-rate. He is then reminded of the attack by the increased heart-rate and may feel aggressive or depressed.

When a traumatic event has taken place, the representation of the event, the UCS, is linked to a complex network of trauma-related thoughts. This network contains causal attributions which affect self-image, world-view and voluntary action that could aid an escape from a repetition of the negative sensations accompanying the traumatic experience. The representation of the UCS also triggers self-instructions which will result in some overt responses, typically those which occurred during the traumatic event. These responses may, of course, be inappropriate later.

Under such circumstances cognitive therapy can focus on changing the UCS representations through discussion, explanation and relabelling of emotions. Currently experienced fear may be relabelled as legitimate anger which has to be appropriately discharged.

The conditioned physiological responses (CRs) can be deconditioned by exposing the traumatized individual to a variety of conditioned stimuli (CS's) under circumstances in which the individual feels protected, respected and is supported in getting control over his reactions. The individual also needs to be encouraged to change his or her cognitive representations of the traumatic events as well as the self-instructions associated with these cognitive representations. This approach differs from a simple behavioural approach which assumes that exposure can be beneficial in any non-traumatic situation and that cognitive changes are unnecessary.

2.4.3.1 An information processing model

According to this information processing model[49], a fear structure[50],[51]is a network in memory which consists of: (a) stimulus information about the event; (b) cognitive, affective, physiological and overt behavioural responses and (c) interpretive information about the meaning of the stimulus and response elements of the structure. This structure is conceived of as a programme for escape or avoidance behaviour.

Apart from its stimulus and response elements, what distinguishes the fear structure from other cognitive structures is the *meaning* attached to the information it contains - i.e. danger. This conceptualization fits well with the observation [40]that rape victims who perceived the assault to be life threatening were more likely to develop PTSD than those who did not.

The emphasis on meaning accounts for heightened PTSD reactions when a threatening event occurs in an environment which was previously considered secure. Being attacked in or near one's own home is more likely to result in PTSD than if the attack had taken place in unfamiliar surroundings.

It has been suggested [32] that PTSD differs from other anxiety disorders insofar as the precipitating event was not only of major significance to the person concerned, but also violated previously held notions of security. Stimuli and responses that were formerly associated with safety now signal danger. In terms of the safety-signal hypothesis,[52] when there are no safety signals, the victim lives in chronic fear.

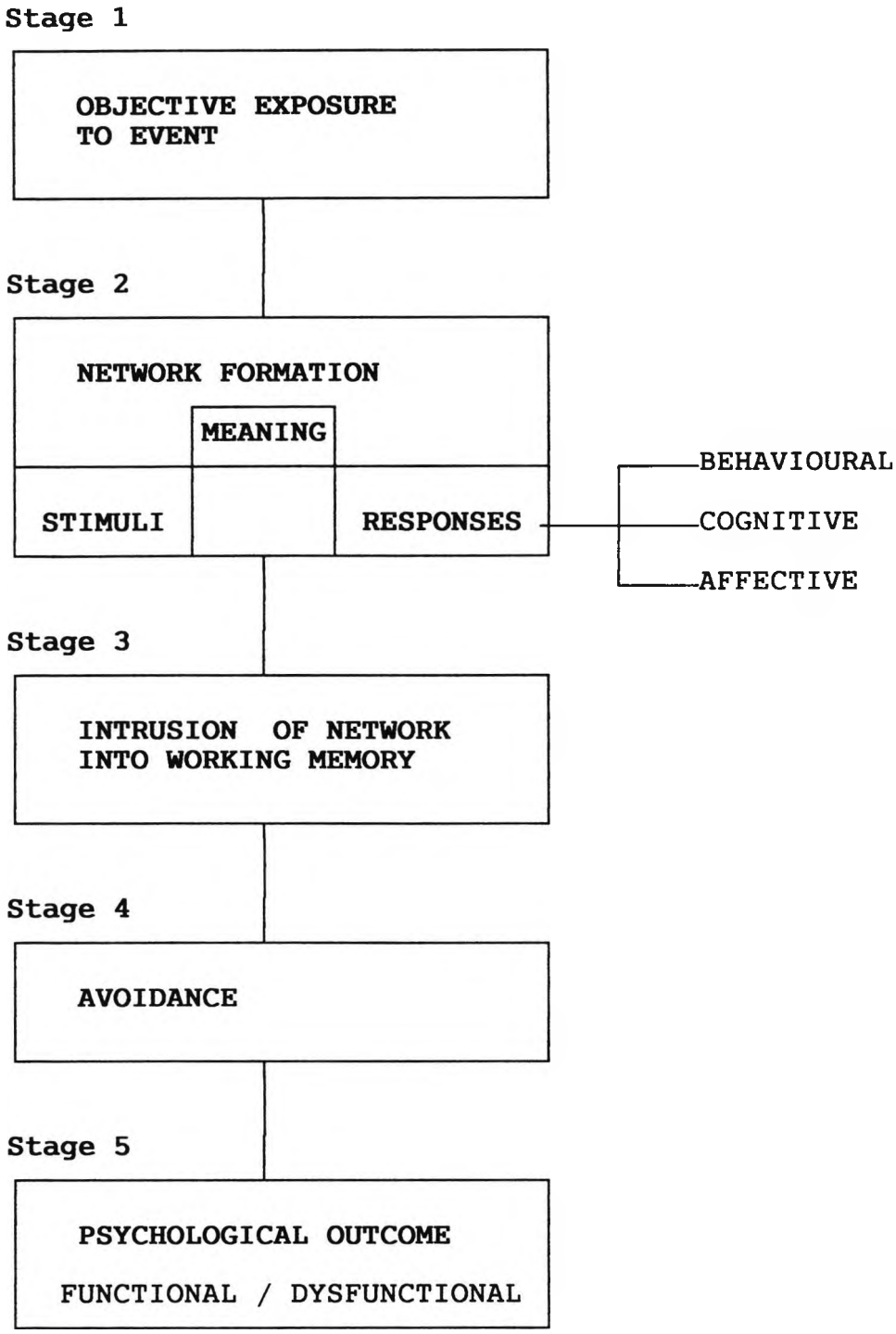
There are two necessary conditions for fear reduction to take place:[49]
Firstly, the fear structure must be accessed through fear-relevant information such as reminders of the trauma. Because people with PTSD have large fear structures, they are easily matched and therefore readily activated. This activation, in principle, allows access to the fear structure for subsequent modification.

Secondly, information inconsistent with that existing in the fear structure must be made available so that the memory network can be modified. Compatible information will have the effect of strengthening the fear structure rather than demolishing it. Thus where there has been massed trauma as, for example, in repeated marital rape, the S-R links in the network will be strengthened, resulting in an increased likelihood of PTSD.

If new incompatible information is effectively processed, the stimulus-response links in the fear structure will be broken, and information about the meaning of feared stimuli and responses will be modified.

The theoretical perspective described has been formalized into a five-stage process model[53] (See Fig.2) which underlies cognitive- behavioural trauma interventions.

Figure 2: A general model of cognitive processing in post-trauma reactions[53]



Stage 1: Objective exposure

This stage refers to the occurrence of the potentially traumatic event itself. Although there is substantial evidence showing that the severity of the stressor is a determinant of subsequent pathology , people respond to the same stressor in different ways because of cognitive mediators, i.e. intrusion and avoidance.

Stage 2: Network formation

The stage of network formation addresses event related stimuli, responses and, most importantly, their associated meaning elements. Because subjective appraisal is critical in determining PTSD, events which are perceived as life-threatening are more likely to result in disordered arousal than are less threatening events. This stage will be influenced by the level of exposure to trauma and will itself predict the level of intrusive thoughts.

Stage 3: Intrusion

This stage refers to the entry of the fear network into working memory. Modification of the network requires that it be held in working memory for long enough to weaken S-R connections and for meaning structures to be modified.

The term 'intrusion' is potentially misleading as it may convey a sense of inherent undesirability. It is important to note that intrusion may be functional to the extent that it facilitates network resolution processing. In this sense counselling which activates the network and allows it to be adequately processed may be intrusive as well as functional.

Stage 4: Avoidance

Because the network contains aversive response elements associated with the event, the individual may be reluctant to hold them in working memory and engage in escape and avoidance (i.e. push the network, or part of it, out of consciousness).

The relief gained from avoidance may, in the long term, prove to be maladaptive. The fact that some survivors of trauma continue to experience intrusive thoughts without reduction of other symptoms may be due to the intrusive thoughts and images not being held in working memory long enough for modification to occur. Research grounded in learning theory on other anxiety disorders has shown that extinction does not occur after short exposures to aversive stimuli.[33,34]

Although preexisting coping styles will also have an influence on avoidance, the degree of intrusion is likely to be a prime determinant of avoidance levels.

Stage 5: Outcome

According to the model, outcome will depend on network resolution processing. High levels of escape and avoidance should be associated with disordered arousal, whereas low levels should be associated with more positive outcomes.

2.4.3.2 Some practical implications for trauma therapy

(a) Time

An important implication of this model is that for therapy to be effective, fear networks must be activated and held in working memory long enough so that resolution processing can occur. This implies that therapy, like flashbacks, will be intrusive. However, unlike pathological forms of intrusion, therapeutic intrusion will be contained and be of sufficient duration for resolution processing to occur. As a matter of practicality, therefore, the therapist must set aside sufficient time for trauma work. The traditional one-hour session may have to change to a less rigid time frame so that the task can be completed - i.e. until the emotional peak has been flattened and the necessary cognitive shift has taken place.

(b) Safety

Because effective trauma therapy will be experienced by clients as anxiety provoking, there may be a tendency on the part of the patient to avoid addressing some or all of the material. To facilitate the process, the therapist should offer the client high levels of physical and emotional safety. It is essential that the therapist does not restimulate the trauma inappropriately.

The following points can help to ensure a psychologically safe environment for the client:

- **Explain the boundaries of confidentiality**

Tell the client that the material to be discussed will be treated as confidential. However, the boundaries of confidentiality must be made clear. If the therapist is working as a member of a team, and the client will be discussed in ward-rounds or in meetings, then this should be made explicit to the client before therapy commences. Similarly, therapists should be clear that where there is reason to believe that the client intends to attempt suicide or deliberately physically harm another person, the police and medical services may be informed.

■ **Brief the client about the procedure**

It is important not to surprise the client with an alien and unexpected intervention. Brief the client about the procedure prior to commencing trauma intervention. Ensure that the client knows what the therapist's questions and instructions will be.

■ **Avoid physical contact**

Inform the client that there will be no physical contact between therapist and client at any time. This means that if the client cries, the therapist will not touch or hug him/her. Many traumatised people have been assaulted, raped or tortured and physical contact, however innocently intended, can restimulate old fears or sexual material which may impede the therapeutic process.

(c) Habituation before restructuring

Because depressed or highly anxious/aroused people are unlikely to be able to engage effectively in the cognitive restructuring of traumatic material, it is necessary to first deal with the affective charge associated with the material. Once the client has habituated to the affective component of the activated network, cognitive restructuring can proceed.

Habituation will be reached by taking the client through the material several times until desensitization has taken place.

There are occasions when the the client seems to be resistant to habituation. In such cases the therapist should check whether the correct material is being addressed. Clients often address a recent event which, however distressing, is not the original traumatic material. In such cases the therapist should check for an earlier event which the recent event is reactivating.

(d) Cognitive restructuring

A number of procedures can be used here. The general aim is to enhance the client's reality checking. It is important that the client understands that the therapist is not trying to persuade him/her that the traumatic event was "okay" or "appropriate" when it was not in fact so. For example, a therapist would obviously not try to convince a rape victim that rape is acceptable. Here restructuring would aim to bring the rape victim to accept that not all men are rapists and that men can be sexually aware of her without necessarily becoming rapists.

Ideally the shift in the client's cognitions should occur spontaneously once habituation to the material has occurred. However, therapists can facilitate this process by helping the traumatised person to make sense of the perpetrator's behaviour without necessarily justifying it. Similarly, a person who has been assaulted in an area which s/he previously considered safe, may now have to acknowledge the fact that there is some degree of danger in the area - although the area is mostly safe.

The cognitive approach also addresses the possibility of disturbances in information processing during a traumatic incident. At the time of the incident the individual is confronted with a vast amount of information relating to stimulus properties of the event, memories about previous events and physical and emotional sensations. The amount of information to be processed can be overwhelming and some of it may not be adequately processed in the short-term memory store for subsequent storage in long-term memory. The information may continue to occupy large parts of the short-term memory store and therefore may easily enter into consciousness as vivid intrusive images, thoughts and flashbacks. The space occupied by inadequately processed material in short-term memory prevents other information from being stored and processed resulting in forgetfulness and impaired concentration.

The implication of this for therapy is that the therapist should help the client transform the information about his/her traumatic experiences so that it can be stored in long-term memory and no longer disturb cognitive functioning. One technique is to help the client order the traumatic information chronologically.

From the above outline of the cognitive approach it can be seen that the concept of 'behaviour' is not treated by this approach as merely referring to observable overt acts. It extends the concept to include internal mental events which can be modified through training and education.

DISCUSSION POINTS

1. What are the essential features of the following approaches to trauma?

(a) Psychoanalytic

(b) Learning theory/behavioural

(c) Cognitive/information processing

2. Given your training background, what has your personal response been to these approaches as presented here?

PART 3: CRITICAL INCIDENT DEBRIEFING

3.1 The nature of critical incidents

From a psychological perspective, the term 'critical incident' refers to an event or situation in which those involved, either directly or indirectly, are at risk of suffering from intense emotional, cognitive and/or behavioural reactions which may have the potential to interfere with their ability to function appropriately during or after the incident.

An individual's interpretation of an event is determined by the mental structures (e.g. values, beliefs, expectancies) which he/she brings to bear on that event. Different individuals may therefore attribute the same event with different 'threat values'. In addition, even in situations which almost everyone would interpret as threatening, there will be individual differences in coping responses to the perception of threat. From this it follows that not everyone involved in a critical incident will be traumatised.

Any event in which there is the perception of threat to the life or physical integrity of self or others has the potential for having traumatic impact and may result in the development of PTSD in some individuals.

Typical traumatic events include assaults or threatened assaults, sexual assaults, rape, road traffic accidents, suicide of someone close, murder, industrial accidents, house fires and bombs.

3.2 Casualties of critical incidents

Casualties of critical incidents manifest at different levels of involvement with the incident.

First level (primary) casualties

Individuals directly experiencing the event who may or may not be physically injured. This group includes both victims and witnesses.

Second level casualties

Relatives, friends and colleagues of the primary casualties

Third level casualties

On site rescue and recovery personnel needing help to maintain their functional efficiency.

Fourth level casualties

The community or organisation involved

Fifth level casualties

People who are emotionally vulnerable for whom the disaster precipitates distress

Sixth level casualties

Those who could have been primary victims or who persuaded others to the course that led to their becoming victims

It is important to bear in mind that these levels do not reflect the degree of potential traumatic impact for an individual. Because the traumatic impact of an event depends on the interpretations and mental structures of those involved, a 'sixth level casualty' may need more help than a 'first level casualty'. Help should therefore be available to all groups.

3.3 Possible impact of critical incidents over time

Time of presentation	Psychological effects
Immediate effects: 0 - 7 days	shock numbing outcry and distress disbelief
Short term: 1 - 4 weeks	anxiety low mood intrusive imagery avoidance increased arousal and hypervigilance disturbed sleep and appetite distraction irritability accident prone increased substance use
Medium term: 4 weeks plus	PTSD depression bereavement reactions anxiety states substance abuse behavioural disorder
Long term: 6 months plus	PTSD chronic depressive condition chronic anxiety enduring personality change
Delayed onset: May be several years and may be restimulated by recent trauma	PTSD

3.4 Critical incident debriefing procedures

A critical incident debriefing is a psychological procedure to be carried out by a trained debriefer on those at risk of developing a dysfunctional stress syndrome following a critical incident. The procedure is targeted at potential casualties at any level of involvement. It should be thought of primarily as a preventative procedure rather than as a therapeutic intervention.

3.4.1 Aims

The general aims of a debriefing are:

1. to serve as a preventative intervention against PTSD in those involved with the incident at various levels.
2. to contain incident-related anxiety in those involved
3. to serve as a diagnostic aid for the identification of PTSD directly related to the incident
4. where applicable, to maintain the efficiency of emergency workers
5. where applicable, to prevent dysfunctional emotions behaviour and relationships in emergency workers and other helpers involved with the incident.

3.4.2 Delivery

The procedure can be carried out in a group or one to one format.

Ideally in the group context the lead debriefer should be assisted by at least one other trained debriefer and the group should consist of no more than ten individuals so that all attending have an opportunity to be heard.

The duration of a group session is typically between 2 to 3 hours with additional time allowed for those needing extended one to one work.

As with one-to-one trauma work, the debriefer should strive to create a psychologically safe environment. For groups, total safety is an ideal which may not be attainable as groups may be perceived as threatening by some members. Nevertheless, it is important for the facilitator to do everything possible to keep the socio-psychological environment safe.

Basic safety features include:

- a clear contract between those commissioning the debriefing and the debriefing body. The contract should include an obligatory agreement for a follow-up session.
- provision of access to one-to-one trauma therapy after the debriefing should this be necessary
- a team of theoretically informed and practically skilled debriefers

- uninterrupted privacy for the debriefing
- the establishment of ground rules at the beginning of the debriefing session

3.5 Overview of two debriefing models

Various debriefing models have been developed. The choice of which model to use will depend on the circumstances of the incident as well as on the nature of the group being debriefed. To date there is no hard evidence as to what the critical features of a successful debriefing model are. However, following the logic of a cognitive processing model of trauma, a strong case can be made for the claim that any model which allows for painful material to be held in working memory long enough for resolution processing to take place is likely to be of benefit to those concerned. It is therefore important for debriefing groups to be small enough so that each member can have enough 'air-time' to express thoughts and feelings and to make sense of the critical incident.

3.5.1 The Multiple Stressor Debriefing Model

The Multiple Stressor Debriefing Model (MSDM)[54] was developed by Armstrong et al. in 1991. These authors identified aspects of disasters which put emergency workers at risk and took into account the large number of personnel involved in disasters as well as their wide variety of job roles.

MSDM has four stages:

1.Disclosure phase

In this phase individuals disclose various events with which they were involved. This may involve several incidents for each emergency worker

2.Feelings and reactions phase

Emotional and behavioural reactions are expressed.

3.Coping phase

In this phase individuals address the coping strategies they have been using and are assisted in developing new ones if necessary.

4.Termination phase

Here relationships are acknowledged and farewells said. There is the preparation for the transition home and the return to the workers' usual roles.

3.5.2 Mitchell's Critical Incident Stress Debriefing

Probably the most widely used model is Mitchell's Critical Incident Stress Debriefing (CISD)[55]. This course focuses on the CISD model and the skills required to use it.

The Critical Incident Stress Debriefing (CISD) model was originally developed by Mitchell for use with emergency service personnel who might be adversely affected by their roles in the aftermath of a critical incident or disaster. The model has been adapted for use with survivors, helpers and colleagues of victims in the work place. The procedure was originally intended to protect and support emergency service personnel and to minimise the development of abnormal stress responses which would impair their efficiency and also cause family problems.

Mitchell believes that CISD should be used in the context of an integrated traumatic stress management programme which includes pre-incident education on the causes, effects and management of stress; support services; family services; one-to-one sessions and follow-up services.

Overview of procedure for Mitchell's seven-stage Critical Incident Debriefing Model

1 Introductory phase

Rules and rationale for the debriefing are discussed.

Group members are encouraged to participate and confidentiality is emphasised.

It is stressed that the meeting is not intended to be a critique of procedural aspects of the incident but rather a supportive experience during which members have the opportunity to express feelings and learn from others.

2 Fact phase

Each member of the group is asked briefly to describe his or her role and experiences during the incident. Sharing information in this way can help to clarify the nature and sequence of events and to clear up misconceptions about what took place.

3 Thought phase

Each member of the group is asked to relate his or her first or most prominent thought during the incident.

4 Reaction phase

This is the most emotionally powerful part of the debriefing.

Group members are asked about the elements of the situation that caused them the most distress and have been the most difficult to cope with since the incident ended.

5 Symptom phase

Participants are asked about any symptoms or distress, physical or psychological, they may have encountered during the incident or since.

6 Teaching phase

The team leaders teach the group about normal stress reactions and techniques that may be helpful in reducing stress and promoting recovery.

7 Re-entry phase

Any unanswered questions are addressed and summary comments are made.

Part 4: CISD in practice

4.1 Procedure for CISD

1. The Introductory Stage

The purpose of this stage is to orientate the group to the procedure and to make the group as safe as possible for those attending.

- Introduce yourself and explain the purpose of the meeting.

- Encourage group members to participate.

- Outline the stage process of the debriefing.

- Establish ground rules for the debriefing:
  Reassure group members that they are not obliged to say anything but encourage them to say their name and connection with the incident.

- Define the boundaries of confidentiality:
  Tell group members that generally material disclosed in the room should not be disclosed to others outside the room.
  Reassure group members that if it proves necessary to disclose this material to anyone not attending the debriefing, this will be done sensitively and respectfully and will not be attributed to individual members.

- Tell group members that they should speak only for themselves.

- Make it clear that the debriefing is neither a tribunal nor a procedural debriefing.

- Warn the group that they may feel worse during the session and for a while afterwards as they may be getting in touch with painful thoughts and feelings.

- Tell the group that the group will proceed without breaks so that if they need a snack or to go to the toilet they should do so now.

- Tell members that they are free to leave but encourage them to return.

- Outline the structure of the meeting.
  Invite questions and clarify any relevant issues.

- Tell the group that as part of ICAS best practice a trauma evaluation form, the Impact of Events Scale will be handed out and they will be asked to complete this before the meeting ends.

- Tell participants that one-to-one sessions have been arranged for everyone after the group and that the sessions will last no more than 30 minutes.
  Attendance at these one to one sessions is not compulsory.

2. The Fact Stage

The purpose of the fact phase is to focus participants' attention on the event and to help them identify sensory information relating to the incident that might precipitate flashbacks. The intention is to reduce the anxiety that accompanies reliving episodes.

- Ask participants to introduce themselves
- What was your role during the incident?
- Useful questions might be:
  What happened?
  What was your perspective?
  What did you see?
  What did you hear?
  What did you smell?
  What did you touch?
  What did you taste?

The above questions are suggestions for eliciting relevant information. The debriefer should be flexible and ask factual questions relevant to the event and the person's role at the time.

3. The Thought Stage

The purpose of the the thought stage is to activate the cognitive component of participants' reactions to the incident. During this stage the debriefing focuses on thought processes and decision making. The thought stage represents a transition to the person's affective (emotional) response to the incident.

People are often reluctant to share first thoughts as they may seem incongruous, bizarre or may reveal intense fear.

- Ask participants to describe their first or most prominent thoughts during the incident.

- Useful questions might be:
  What was your first thought when it happened?
  What did you decide to do and why?

4. The Reaction Stage

This stage focuses on the affective component of participants' responses to the event. It can be the most difficult and longest part of the debriefing as individuals identify the most traumatic and emotionally painful aspect of the event. It is during this stage that debriefers are likely to recognise those who by their reactions, or lack of them, need to be invited to have one to one follow-up.

Because emotional responses at this stage can be strong, it is important to contain these sensitively and quickly and not to use the group format for therapeutic or cathartic purposes. Intense individual responses should only be extensively explored in a one to one session after the group debriefing. However, some emotional release is helpful at this stage as the sharing of feelings between group members can have a normalising effect and can enable the individual to realise that he or she is not alone.

- Useful questions might be:
  What did you feel to begin with?
  What did you feel later?
  What was the worst thing for you about the incident?

5. The Symptoms Stage

This stage is helpful in identifying some of the symptoms of PTSD such as intrusive thought and images, avoidant behaviours and symptoms of increased arousal.

- Ask participants to describe any cognitive, physical, emotional or behavioural symptoms that were experienced:

  at the time of the incident
  after the incident
  when they got home
  during the following days
  at the present time

- If necessary, give group members a brief overview of the symptoms of PTSD and invite them to check their responses against this 'list'.

6. The Teaching Stage

The purpose of this stage is to normalise individuals' responses to the incident and to teach stress management skills.

- Synthesise participants' reactions to the incident
- Stress that under the circumstances participants' reactions are normal or typical but that they usually decrease with time
- Emphasise communality of reactions and acknowledge individual differences
- Teach stress management skills such as:

  rest and relaxation
  talking to family and friends in order to process the incident
  returning to work
  gradual exposure to the site of the incident (desensitization through habituation)
- Discuss at what point participants might need to seek further help

  Useful guidelines might be:
  -if symptoms do not decrease after about six weeks
  -if symptoms increase over time
  -if functioning at work or home is significantly impaired
- Give participants the IES form to complete

7. The Re-entry Stage

This last stage of the debriefing provides participants with the opportunity to ask questions or review material presented during the debriefing. It is also the last opportunity within the group setting for members to address new information they would like to discuss before the group adjourns.

- Make summary comments
- Offer encouragement
- Offer further assistance
- Distribute information sheets on coping with trauma

4.2 Keeping CISD as safe as possible

Because there is no compelling evidence that the critical incident debriefing is in itself an effective trauma intervention, it is important that debriefers are clear about their objectives. The debriefing is an opportunity to offer those affected containment of their anxiety. Most importantly it allows for the normalisation of individual responses to the event and offers the debriefing team an opportunity to identify those at risk and offer appropriate individual therapy without undue delay.

A major hazard of the debriefing is that it may re-stimulate preexisting trauma or other painful material that has not been adequately resolved by participants. For this reason it is essential for debriefers to be skilled in the management of trauma. and to make the debriefing as safe as possible for those attending.

Key points to ensure psychological safety in groups:

- Ensure that there is an appropriately furnished room for the debriefing
- Ensure that there will be no interruptions either by people entering the room or telephone calls
- The debriefer should have adequate knowledge of the incident before starting the procedure
- If possible, avoid including in the group relatives, line managers and those they manage
- Orientate the group with appropriate introductory remarks
- Ensure that the teaching and summarising components of the debriefing are adequate
- Avoid providing too much advice
- Avoid taking notes during a debriefing

- Avoid interrupting a person who is expressing their emotions during a debriefing
- Ensure adequate containment of emotional responses to minimise the possibility of re-traumatisation

4.3 Training vignettes

Role play

Choose one of the following incidents around which to develop your role play. Take a few minutes to develop your individual character and decide beforehand how you reacted to the incident.

One person in each group should act as a debriefer. Take turns to debrief the group. Give constructive feedback (and help, if necessary) to your debriefer.

Critical Incidents

Incident 1

At approximately 18.20 hours a male in his twenties approached a department store employee, Gina, from behind, put his arm around her neck and told her not to scream. Gina screamed and the attacker strangled her. Two male colleagues ran to her assistance. During the scuffle the attacker managed to get out of the shop but was dragged back in. He then relaxed, reached into his jacket and took out a CS gas spray which he used to spray the two staff members in the face. Two more colleagues came to their assistance and were also sprayed in the face. The attacker managed to escape from the store and at the time of the debriefing had not been captured.

No money was stolen from the till.

The debriefing is attended by Gina and the colleagues who came to her assistance.

Incident 2

At approximately 1.00 p.m. a client waiting in a queue at a bank lost his temper. Members of staff tried to help, but the client picked up a terminal and threw it. He tried to hit people and threw a table at a member of staff but missed and smashed several more terminals. No one was physically injured. The client then ran out of the centre, threatening to kill people in the centre.

The police were called. They have full details of the man but as yet have not caught him. The incident was recorded on CCTV.The debriefing is attended by cashiers who witnessed the incident.

Incident 3

Just before closing time three males entered a financial institution and vaulted over the counter in the banking area of the office. The emergency barrier screens, which separate the cashiers from the public when the alarm is sounded, went up thereby temporarily keeping the raiders on the same side of the counter as the cashiers. The raiders punched one female member of staff, and one male member of staff was struck on the side of his head. In neither case was there serious physical injury. The raiders took approximately £5000 and then escaped via the door to the banking area which could only be opened from the inside.

The two assaulted members of staff attend the debriefing along with other colleagues who witnessed the incident.

Incident 4

A gang of 8 youths entered a department store. One of them punched a cashier in the face and demanded that she hand over the contents of the till. Another stabbed a security guard in the chest. The guard is now critically ill in hospital.

The cashier who was punched attends the debriefing; she is very distressed; others attending are concerned for their future safety.

Incident 5

An evening shift worker in an engineering assembly plant was killed instantly when a piece of plant machinery struck him on the head and decapitated him. He was 20 years of age and the youngest member of the team.

His colleagues on the night-shift are very distressed and attend the debriefing. The general mood is to blame management for inadequate induction and safety procedures.

Incident 6

At opening time a store manager and assistant manager unlocked their store and went to their cash office to find two gunmen waiting for them. The raiders held guns to their heads and told them to open the safe. When two other members of staff walked by the office, the raiders pulled them into the office and threatened them. Several thousand pounds were taken.
The raiders then escaped and have not since been arrested.
The staff involved attend the debriefing. All are distressed.

4.4 Evaluation of critical incident debriefing

Demand for critical incident debriefing appears to be increasing. One reason for this may be that those organisations commissioning debriefing sessions are eager to show their concern for their personnel and their efforts to take 'due care' of these individuals in the belief that the debriefing sessions will be an effective preventative measure to maintain the mental health of those concerned. However, the available research evidence relating to the efficacy of critical incident debriefing procedures is far from unequivocal. Some studies have suggested that debriefings may lead to poorer outcomes for the participants, whilst others have found in favour of debriefings.

By way of illustration, some of these studies are outlined below:

Robinson and Mitchell (1993)[56] in a descriptive study followed up 172 emergency service, welfare and hospital personnel who had taken part in 32 briefings.

Most respondents found the debriefings valuable. Those who experienced stress at the time of the incident attributed this as being at least partly due to the debriefings. However, only 60% of the total participants in the 31 debriefings covered responded to the study; it could be that those who felt that the debriefings had not been beneficial were less likely to respond.

Hytten and Hasle (1989)[57] conducted a comparative follow-up of debriefed and non-debriefed groups of fire-fighters involved in a hotel fire in Norway.

It was found that most of those who attended the debriefing found it helpful.

However, there was no significant difference in IES scores between those who had been debriefed and those who had talked informally to colleagues about the incident. This suggests that the opportunity to process the information may be a key factor in prevention and recovery.

Chemtob et al. (1997)[58] compared two groups of disaster workers debriefed at 6 and 9 months respectively post-incident following hurricane Iniki in Kauai, Hawaii, in 1992. There was no difference between the two groups with respect to pre-debriefing IES scores and at follow-up both groups showed a significant reduction in reported levels of distress. These researchers claim that the replication of this finding across both groups suggests that the reduction in distress is, at least in part, attributable to the intervention. The debriefings at 6 and 9 months after the incident is quite late compared to other studies, but this may have been of greater benefit.

Yule and Udwin (1991)[59] compared girl survivors from the sinking of the *Jupiter* with a group from another school who had not received debriefing. The debriefed group showed

improvement on intrusion and avoidance. The groups did not differ on measures of anxiety and depression. It is important to recognise that some of the debriefed girls subsequently received group treatment, so it is unclear whether it was the debriefing or the group treatment which led to the improved outcome in the debriefed group.

Stallard and Law (1993)[60] assessed girl survivors of a school mini-bus crash before and three months after two sessions of debriefing. They found a significant reduction of intrusion, avoidance, anxiety and depression in the debriefed group

MacFarlane (1998)[61] conducted a comparative follow-up study between debriefed firefighters involved in the Ash Wednesday bush fires in Australia and their non-debriefed counterparts. Those firefighters who received debriefing shortly after the incident were less likely to develop acute post-traumatic stress symptoms. On the other hand, those who developed delayed-onset PTSD were more likely to have attended a debriefing than those who had not.

Griffiths and Watts (1992)[62] in a follow-up of emergency services personnel involved in bus crashes compared those who had attended debriefings and those who had not and found that respondents who had attended debriefings had significantly higher levels of intrusive and avoidant symptoms than those who had not. They also found no relationship between the perceived helpfulness of the debriefing and symptoms.

Kenardy et al. (1996)[63] in a naturalistic comparative follow-up of emergency service and other disaster workers involved with an earthquake in Australia compared those who had attended debriefings with those who had not. There was no evidence of a more rapid recovery rate for those who were debriefed compared to those who were not.

Deahl et al. (1994)[64] in a quasi-experimental controlled study of troops serving with the Army War Graves Service during the Gulf War found that neither prior training nor the debriefing appeared to make any difference to subsequent psychological morbidity. Those who had a prior history of psychological problems and those who believed their lives had been in danger were more likely to have subsequent stress-related psychological difficulties.

In a randomised controlled trial Lee et al. (1996)[65] studied women who had suffered miscarriages. Half the sample were debriefed at home; half were not debriefed. After 4 months the debriefed group showed significantly less intrusive and avoidant symptoms than the non-debriefed group and debriefing was perceived as helpful. However, at one week and four

months anxiety was significantly higher than community sample estimates. Psychological debriefing was perceived as helpful, but did not influence emotional adaptation.

Hobbs et al. (1996)[66] using a randomised controlled trial with victims of road-traffic accidents found that after four months neither group showed a significant reduction in symptoms. The debriefed group also subsequently showed a significantly worse outcome on measures of emotional distress. The researchers suggest that the debriefing may have been too early. In addition, it may not have seemed relevant to people expecting an unproblematic recovery and it may not have been adequate to address major emotional problems; early interventions may disturb natural psychological defences against anxiety and distress. These researchers favour later psychological intervention which targets emerging problems rather than generalised debriefings.

Bisson et al. (1997)[67] in a randomised controlled trial with acute burn trauma victims found that at 13-month follow-up those who had received the debriefing were more anxious and depressed and had a greater prevalence of PTSD than controls. Note that the debriefed group had higher initial questionnaire scores and more severe dimensions of burn trauma than controls. These researchers found that the closer the time of the debriefing to the burn, the worse the outcome.

At this stage it is unwise to reach a conclusion about the efficacy of critical incident debriefing by simply comparing the frequencies of those studies finding in favour of debriefings and those finding against them. The studies studies differ in many respects. Whilst some studies are simply descriptive, others are quasi-experimental and there is a dearth of comparable randomised controlled trials. Equally problematic for comparisons is the fact that different debriefing procedures were used across the studies. In addition, subject groups varied in terms of their composition and relevant histories. Finally, the timing of the post-incident debriefings varied from study to study.

Clearly, more high quality research is required, especially with respect to the temporal delay between a critical incident and the debriefing. Timing may be critical as debriefing which is too early may interfere with functional natural defences.

DISCUSSION POINTS

1. What was your experience of the debriefing exercise?

2. Given the equivocal research findings outlined above, what are your feelings about conducting critical incident debriefings?

PART 5: ASSESSMENT

5.1 The role of assessment in debriefing

Whilst critical incident debriefing is generally seen as a preventative intervention, it is also an opportunity for the debriefer to assess participants for the traumatic impact of the incident. The outcome of the assessment will determine the need for further one-to-one trauma therapy.

5.2 Qualitative assessment

Qualitative assessment for PTSD involves interviewing the person with a view to establishing whether he or she meets the diagnostic criteria for PTSD. The interview may be standardised or unstandardised, but in either case the assessor should ensure that established diagnostic criteria are met.

5.2.1 Summary of DSM IV diagnostic criteria for PTSD[16]

A. Both of the following were present:

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

2. The person's response involved intense fear, helplessness, or horror.

B. The event is persistently re-experienced in **one or more** of the following ways:

1.Recurrent and intrusive distressing recollections of the event, including images, thoughts or perceptions.

2. Recurrent distressing dreams of the event.

3. Acting or feeling as if the traumatic event were recurring (including a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur when awakening or intoxicated).

4.Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

5. Physiological activity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

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

1. Efforts to avoid thoughts or feelings, or conversations associated with the trauma.

2. Efforts to avoid activities, places or people that arouse recollections of the trauma.

3. Inability to recall an important aspect of the trauma.

4. Markedly diminished interest or participation in significant activities.

5. Feeling of detachment or estrangement from others.

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

7. Sense of a foreshortened future (e.g. does not expect to have a career marriage, children or 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 (Criteria B, C and D) has been for more than one month.

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

Specifiers:

Acute: Duration of symptoms is less than 3 months.

Chronic: Duration of symptoms is 3 months or more.

With delayed onset: If onset of symptoms is at least 6 months after the stressor.

5.2.2 The structured interview

In addition to observing the reactions of individuals during the debriefing, it is frequently helpful to conduct one-to-one interviews after the group sessions to identify those at risk. A structured or semi-structure clinical interview protocol can be helpful in this respect, but should not prevent clients from presenting their account of events in their own words. A correctly used interview protocol will help ensure a thorough examination of the signs and symptoms of PTSD.

The following are some commonly used structured interview protocols:

- Structured Clinical Interview for DSM-III-R (SCID)[68]
- Anxiety Disorders Interview Schedule Revised (ADIS-R)[69]
- Structured Interview for PTSD (SI-PTSD)[70]
- PTSD Interview (PTSD-I)[71]
- Clinician-Administered PTSD Scale (Caps-1)[72]

The information obtained from the structured interview forms the basis of the assessment procedure. The basic structure suggested below should be adapted according to the traumatic stressor and to specific responses by the client. It can also be expanded to cover more secondary features or more detailed information.

The general format of an interview protocol

Ask specific questions related to:

- the nature and degree of the traumatic experience

- PTSD symptoms
  - intrusive thoughts, feelings, images and memories
  - numbing of responsiveness
  - avoidance responses
  - hyperarousal

- associated features
  - depression
  - anxiety
  - aggression (physical or verbal; losing one's temper)
  - substance abuse

- pre-morbid adjustment
  - school performance
  - pre-morbid social life
  - pre-morbid family life
  - family history of mental illness

5.3 Quantitative assessment

There are several instruments available for the quantitative measurement of PTSD. Only one such instrument, the Impact of Events Scale (IES)[63]is presented here by way of example. There is, however, an important caveat in relation to psychometric measurement: Although many quantitative assessment instruments are easy to administer and score, some statistical knowledge is required for their interpretation and the test user should have an appropriate training in psychometrics. The following section goes some way towards helping the IES user, but it is not a substitute for training to BPS 'Level A' and 'Level B' standards. Details of these standards can be obtained from the British Psychological Society.

5.3.1 Basic statistical concepts for test interpretation

It is important that as a test user you are able to choose tests responsibly and to understand test results. The aim of the following section is to introduce some statistical concepts which are fundamental to an understanding of psychological testing.

The mean

The mean of a set of scores, often referred to as 'the average', is arrived at by adding up the scores and dividing by the number of scores. In statistical notation, this is expressed as:

$$\bar{X} = \sum X / N$$

i.e. The mean = the sum of the scores, $\sum X$, divided by the number of scores, N.

$\sum$ (pronounced 'sigma') is a capital S in Greek. In statistics it is an instruction to add up. $\sum X$ means add up a column of figures called column X. Similarly $\sum Y$ means add up a column of figures called column Y.

Example 1:

Consider the following set of scores:

(Note that the X is the identification label for the column).

X

1

2

3

4

5

The sum of the scores ($\sum X$) in column X =15

The number of scores (N) in the column is 5

The mean of these scores is therefore 15/5 =3

EXERCISE 1

Using a calculator, calculate the means of the following sets of scores:

(a) Set X: 1 2 3 4 5

(b) Set Y: 23 45 34 21 42 76 66 93

(c) Set Z: 12 34 46 63 23 45 67 113

The variance

The variance is a measure of the degree of spread or dispersion of a group of scores. The variance (or spread) of scores can be different for two sets of scores having the same mean.

Consider the scores: 3 3 3 3 3. Here the average is 3 and there is no deviation (or spread) from this. So the variance=0. Now consider the scores: 1 2 3 4 5. Here the average is again 3, but the variance can be shown to be 2 as follows:

Note that the mean of the scores: 1 2 3 4 5 is 3. Each score differs from this mean by a certain amount. There is no point in averaging these differences as they will always sum to zero. (Why does this happen?) The remedy is to square these differences and then average across *the squared differences*. This gives you the variance - an index of the spread of the above scores.

Raw score	Deviation score (mean-raw score)	Squared deviation from the mean
X	$\bar{X} - X = d$	d^2
1	3 - 1 = 2	4
2	3 - 2 = 1	1
3	3 - 3 = 0	0
4	3 - 4 = -1	1
5	3 - 5 = -2	4
		$\sum d^2 = 10$

The sum of the column headed d^2 is 10.

The mean of the column headed d^2 is 2. This is the variance of the set of scores in the first column.

The variance is therefore the average of the squared differences of each score from the mean.

EXERCISE 2

Using a calculator, calculate the variance of the following sets of scores:

(a) Set X: 1 2 3 4 5

(b) Set Y: 3 5 5 6 7

(c) Set Z: 4 6 6 8 9 12

The standard deviation

Like the variance, the standard deviation (SD) is a measure of the spread or dispersion of a set of scores. The standard deviation (SD) is the square root of the variance.

If the variance of a set of scores is 25, then its SD is 5.

If the variance of a set of scores is 36, then its SD is 6.

If the variance of a set of scores is 81, then its SD is 9.

To calculate the SD of a set of scores, first find the variance of the scores and then, using a calculator, determine the square root of the variance. Conversely, if the SD is known, then the variance can be determined by squaring the SD.

EXERCISE 3

Using a calculator, determine the standard deviations or variances:

Variance	**SD**
9	3
38	_____
_____	12
432	_____
28	_____
_____ 57	

The SD and the variance are both measures of dispersion. The SD is the preferred measure in psychometric testing because of its direct relevance to the normal distribution.

Note that most calculators have a square root key which will give the square root of an entered set of scores. Statistical calculators will give you the SD of an entered set of scores at the touch of a button.

The normal distribution

The distribution of test scores for large groups of heterogeneous test takers often resembles the normal distribution i.e. A symmetrical, mathematically defined, bell shaped curve.

On a normally distributed set of scores values are distributed so that there are relatively few extremely high scores and relatively few extremely low scores. In fact just over 2% of scores will be extremely high, whilst just over 2% will be extremely low. These low frequencies are reflected by the small areas under the tails of the normal distribution.

The curve shows that approximately 68% (34% + 34%) of scores lie within 1 SD (standard deviation) either side of the mean. This is often referred to as the 'normal range' as it is typical of the scores. Scores beyond this range are less likely to occur and are therefore considered

rather unusual, but not necessarily bad. For example, an extremely high IQ score of 155 is unusual as is an extremely low one of 45.

z-scores

A z-score is simply the number of standard deviations (SDs) that a score lies from the mean. A z-score of 2 means that the score in question lies 2 SDs above the mean. A z-score of -2 means that the score lies 2 SDs below the mean. For example, if a measuring instrument has a mean of 10 and an SD of 2, then a person who scores 14 has a score which falls 2 SDs above the mean. The person therefore has a z-score =2. Similarly, if a person scores 9, then that person's score falls half an SD below the mean. The person has a z-score = -0.5.

A z-score can be calculated using the following formula:

$z = (X-\bar{X})/SD$

(z = the observed scale score minus the mean for that scale divided by the standard deviation).

Percentiles

A percentile score tells you what percentage of a given population scores less than an individual on a particular measure. A percentile expresses the percentage of cases (people) in the standardization sample who scored below a specific raw score. Percentiles range from 0 to 100.

For example, if a person's test scores is found to be in the 90th percentile, this means that 90 percent of the population score less than s/he does on that particular dimension. Similarly, if a person's score is found to be at the 50th percentile, this means that 50 percent of the population score less on that dimension than that person.

Do not confuse percentile scores with percentage scores. A *percentage* score on an attainment test refers to the percentage of correct responses. On the other hand, the test taker's *percentile* score refers to the number of comparable people who scored lower on the particular test. For example, on a very difficult test, a subject who answers 50 per cent of the questions correctly might still be in the 95th percentile. This means that 95% of the comparison group scored less than 50% on the test.

EXERCISE 4

A test manual tells you that a test has a mean of 52 and an SD of 3.

Calculate the following:

Client's observed score	Client's z-score
55	1
57	1.6667
50	-0.6667
54	_____
49	_____
46	_____

5.3.2 The Impact of Event Scale

General description

The IES was developed as a measure of current subjective distress related to a specific event. It consists of 15 items based on commonly reported experiences of intrusion and avoidance. Seven items describe episodes of intrusion (Items 1,4,5,6,10 11 and 14) and eight describe episodes of avoidance (Items 2,3,7,8,9,12,13 and 15). The ratings for all 15 items may be summed to obtain a total distress score. Raw scores can be referenced against scores of outpatients attending a psychotherapy clinic as well as against scores obtained for non-patients.

Summary of psychometric properties

Reliability of the IES has been found to be quite good,[73] ranging from 0.78 to 0.94[78]. Validity studies[76, 77] have found significant correlations between the IES and a variety of measures of chronic stress. The IES has also been shown to be sensitive to changes in clients before and after therapy for post-traumatic stress.[73,75]

Norm-referenced interpretation of the IES

Raw scores are in themselves meaningless and have to be interpreted against known norms for different groups. Tables 1 and 2 show examples of commonly used IES norms.

Raw scores for the Intrusion and Avoidance subscales as well as total IES scores can be compared to available norms. Norms cited by Horowitz et al. (1979) for psychiatric outpatients (male and female separately) and non-patients (male and female separately) are indicated in Tables 1 and 2 respectively. Table 3 shows more recently obtained norms for larger samples cited by Briere and Elliott (1998). The norms in Table 3[76] are for larger samples, combine both genders and are more recent. Note that Briere and Elliott found no significant gender differences.

Table 1 **IES raw scores with means and standard deviations for female patients and female non-patients** (Horowitz et al., 1979)

	Stress Clinic Female patients (N=50)		Medical student Female non-patients (N=35)	
Scale	**Mean**	**(SD)**	**Mean**	**(SD)**
Intrusion (I)	21.4	(8.6)	6.1	(5.3)
Avoidance (A)	20.6	(11.3)	6.6	(7.0)
Total (T)	42.1	(16.7)	12.7	(10.8)

Table 2 **IES raw scores with means and standard deviations for male patients and male non-patients** (Horowitz et al., 1979)

	Stress Clinic Male patients (N=16)		Medical student Male non-patients (N=75)	
Scale	**Mean**	**(SD)**	**Mean**	**(SD)**
Intrusion (I)	21.2	(12.5)	2.5	(3.0)
Avoidance (A)	14.1	(12.0)	4.4	(5.3)
Total (T)	35.3	(22.6)	6.9	(6.8)

Table 3 **IES raw scores with means and standard deviations for people with and without trauma history** (Briere and Elliott, 1998)

	No trauma history (N=138)		Trauma History (N=360)	
Scale	**Mean**	**(SD)**	**Mean**	**(SD)**
Intrusion (I)	3.9	(6.2)	7.0	(9.2)
Avoidance (A)	4.2	(6.8)	8.5	(9.6)
Total (T)	8.1	(12.3)	16.7	(17.9)

Table 4 shows percentile scores so that IES raw scores can be referenced against the general population.

Table 4 **Distribution of Impact of Event Scales (IES) Expressed in Percentiles** (Briere and Elliott, 1998)

Percentile	Total	Intrusion	Avoidance
< 40	0-2	0	0
40-44	3-4	1	1
45-49	5-6	2	2
50-54	7-9	3	3
55-59	10-11	4	4-5
60-64	12-14	5-6	6-7
65-69	15-17	7-8	8
70-74	18-21	9-10	9-10
75-79	22-27	11-13	11-14
80-84	28-33	14-16	15-17
85-89	34-38	17-19	18-21
90-94	39-46	20-25	22-25
95-99	47-66	26-33	26-35
>99	67-75	34-35	36-40

N=498

The procedure for deciding whether or not a client's score is typical of a chosen reference group referencing is as follows:

1. Select the appropriate reference norms.
2. Note the mean and standard deviation for this group.
3. Calculate the client's z-scores for each scale (I, A and T).

Example 2:

Jane, obtained the following IES scores:

Intrusion (I)= 6; Avoidance (A)= 8; Total (T)= 14

You want to know whether or not her scores are typical of traumatised (i.e. 'clinical') patients.

According to the norms in Table 3, the mean of the Intrusion scores for the traumatised group is 7 with an SD of 9.2

For the Intrusion subscale, the client's z-score is:

$$z = \frac{6-7.0}{9.2} = -0.1087$$

Her z-score is less than -1 SD, meaning it falls just below the mean for that group. You would therefore interpret her score as being within the normal range (i.e. typical of that group) as it is very close to the reference group's average (mean), suggesting that she might be traumatised.

Follow the same procedure for the same client's Avoidance score.

The client's observed Avoidance score is 8. The mean for female patients is 8.5 and the standard deviation is 9.6.

The client's z-score for the Avoidance subscale is calculated as:

$$z = \frac{8-8.5}{9.6} = -0.0521$$

Once again this shows that the client's raw score is just below (within 1 SD of) the mean for the reference group (i.e. the traumatised group) which again suggests that she is typical of that group and is likely to be traumatised.

The client's Total IES raw score of 14 can be interpreted similarly:

$$z = \frac{14-16.7}{17.9} = -0.1508$$

In the above example, since the client's z-scores for the Intrusion, Avoidance and Total IES scales are within -1 SD of the relevant means, we can conclude that her scores are typical of the traumatised reference group. Note that even if she had obtained positive z-scores up to plus one, this would still tell us that she was typical of the traumatised reference group. If she had obtained z-scores higher than plus 1 (>1), we would conclude that her IES scores were above average even for the traumatised group.

If her z-scores for each of the IES subscales were below minus 1, we might then wish to compare her with the non-traumatised (i.e. 'normal') female group using the same procedure as above.

EXERCISE 5

Out of interest, compare Jane's scores with the *'normal'/non-clinical* reference group.

You will have to calculate her IES z-scores again, but this time using different means and SDs.

What do you conclude when comparing her z-scores with the non-clinical reference group?

EXERCISE 6

Refer to Table 4 and determine Jane's the percentile values for Jane's IES Intrusion, Avoidance and Total scores. What do these percentile values tell you about Jane relative to the estimated population norms?

Administration of the IES after a debriefing provides a quick screen for trauma. However, it should not be used alone as a diagnostic instrument as it assesses only two areas of trauma symptomatology and should be used in conjunction with a structured or semi-structured interview which allows the clinician to probe for more detail.

Summary and conclusion

The critical incident debriefing is an opportunity for debriefers to:

(a) Contain the anxiety of the group

(b) Normalise their responses to the event

(c) Identify those who may be traumatised through appropriate assessment

Diagnostic information can be derived though:

(a) Observation of individual responses during the group debriefing

(b) One-to-one clinical interviews

(c) Psychometric assessment

All the above sources of information are useful in identifying traumatised individuals who may need immediate specialist intervention or onward referral.

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APPENDIX 12 TIMETABLE FOR ONE-DAY COURSE PROGRAMME

CRITICAL INCIDENT DEBRIEFING AND TRAUMA MANAGEMENT

ONE-DAY COURSE (PILOT VERSION): 14.05.98

PROGRAMME

09.00-09.30:	Arrival and registration
09.30-11.00:	A brief history of PTSD DSM - IV criteria A process model of PTSD Practical implications of the model Assessment: DSM criteria and the IES
11.00-11.10	**Break**
11.10-13.00	Critical Incident Debriefing Overview Demonstration Role-play and observation
13.00-14.00	**Lunch**
14.00-15.45	Role-play and questions
15.45-16.00	Feedback and close

APPENDIX 13 TIMETABLE FOR TWO-DAY COURSE PROGRAMME

CRITICAL INCIDENT DEBRIEFING AND TRAUMA MANAGEMENT

TWO-DAY COURSE

PROGRAMME

DAY 1

09.00-09.30:	Arrival and registration
09.30-11.00:	Introduction and overview
	Trauma: background and perspectives
11.00-11.15	**Break**
11.00-11.30	Discussion and feedback (1)
11.30-13.00	Critical Incident Debriefing Overview Role-play and observation
13.00-14.00	**Lunch**
14.00-15.45	Role-play and questions
15.45-16.15	Discussion and feedback (2)

DAY 2

09.00-09.30:	Introduction: agenda and queries
09.30-11.00:	Relating critical incidents to trauma The role of assessment in debriefing Qualitative assessment
11.00-11.15	**Break**
11.00-13.00	Quantitative assessment of trauma The Impact of Events Scale: its relationship to theory Interpretation of the IES
13.00-14.00	**Lunch**
14.00-15.30	Practice session
15.30-16.00	Queries and feedback

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T1**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments:
'Very well presented, lively and informative'
Very interesting mix of theory, anecdote etc.'

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments:

The training facilities (room, teaching aids etc.) were:

Poor Good Very good Excellent

Comments:

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T2**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments: **Very informative**

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments:

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments:

The training facilities (room, teaching aids etc.) were:

Poor Good Very good Excellent

Comments:

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T3**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments: **At a glance looks well-presented and very useful to have something to take away and digest**

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Good examples and sense of humour**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments:**Insufficient time for role-play**

The training facilities (room, teaching aids etc.) were:

Poor Good Very good Excellent

Comments: **OHP difficult to read**

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T4**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments: **IES a bit complicated**

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Entertaining as well**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **A good taster for future training**

The training facilities (room, teaching aids etc.) were:

Poor Good Very good Excellent

Comments:

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Anonymous **T5**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:_____

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments:_____

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **Not enough time for role play**

The training facilities (room, teaching aids etc.) were:

	Poor	Good	Very good	Excellent

Comments:_____

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T6**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Liked Martin's sense of humour**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments:**Felt the workshop was rushed unfortunately. Two days would have been more beneficial.**
However, thank you. An enjoyable and stimulating training event.

The training facilities (room, teaching aids etc.) were:

	Poor	Good	Very good	Excellent

Comments: **Food excellent; staff hospitality excellent and most welcome.**

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given T7

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments: **Well presented**

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Good examples to anchor concepts**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **Provided many thought-provoking links with *all* work with clients.**

The training facilities (room, teaching aids etc.) were:

Poor Good Very good Excellent

Comments:

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T8**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Certainly a good effective training style.**
A lot of material provided in an enjoyable way

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **Less time on history for the early part; more time for the rest**

The training facilities (room, teaching aids etc.) were:

	Poor	Good	Very good	Excellent

Comments:

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T9**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:_____

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Examples clarified theory particularly well**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments:_____

The training facilities (room, teaching aids etc.) were:

Poor Good Very good Excellent

Comments:_____

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T10**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:_____

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments:_____

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **Need further opportunity for practice**

The training facilities (room, teaching aids etc.) were:

	Poor	Good	Very good	Excellent

Comments: **Especially handouts. Manual was excellent**

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Anonymous **T11**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:_____

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments:_____

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments:_____

The training facilities (room, teaching aids etc.) were:

Poor	Good	Very good	Excellent

Comments: **The breaks room was freezing**!

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T12**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments: **Fuller and more detailed than I expected**

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Held attention; lots of excellent stories - confident with "knowing it all".**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **Wow! I don't normally rate high.**

The training facilities (room, teaching aids etc.) were:

	Poor	Good	Very good	Excellent

Comments:

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T13**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments: **One of the best training days I have attended**

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: _____

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **Role play time could have been longer**

The training facilities (room, teaching aids etc.) were:

	Poor	Good	Very good	Excellent

Comments: _____

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T14**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments:

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **Given we had such little time for such a big topic, I would have preferred to use the manual for much background reading at home. There would have then been more time for role-play and practical questions.**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **The training day alone wouldn't have allowed sufficient time for the objectives to be met - the manual provided the opportunity for reflection and grounding.**

I was very pleased to attend this day which added to my knowledge and skills in this area - so many thanks for providing the training day. I feel confident that I can work effectively and sensitively with clients who need this service.

The training facilities (room, teaching aids etc.) were:

	Poor	Good	Very good	Excellent

Comments: **I appreciated the warm welcome of the headquarters staff. Thank you for delicious and generous buffet.**

APPENDIX 14 COURSE EVALUATION FORMS

COURSE EVALUATION FORM

Your name: (Optional) Name given **T15**

Title of course: Critical incidents and their traumatic impact: Theory, assessment and intervention

Date of course: 14.5.99

Trainer: Martin Fine

Please rate the course on the dimensions below. Feel free to write any additional comments on the back of this form.

The course manual

Coverage:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent
Relevance:	Poor	Good	Very good	Excellent

Comments: **I would have preferred to read the manual in advance of the training day so that more time could have been spent practising the technique.**

The trainer:

Teaching style:	Poor	Good	Very good	Excellent
Clarity:	Poor	Good	Very good	Excellent

Comments: **I found he talked a bit too fast, as if he was worried about getting all the material in in the time (available). However, my hearing isn't perfect, so my needs may be different to the majority.**

The stated training objectives on page 3 of the manual were:
(Please tick)

Not met at all
Adequately met
Fully met

Comments: **I think it would be good experience to witness or assist in a real critical incident debriefing session before doing one alone.**

The training facilities (room, teaching aids etc.) were:

Poor Good Very good Excellent

Comments: **I might have found it more relaxing if the projector had not been on all the time. Lovely room and environment.**

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