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VOLUME 1:

THE PSYCHOLOGICAL CONSEQUENCES OF DRUG RAPE

UNIVERSITY COLLEGE LONDON
D.CLIN.PSY

1998 - 2001
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ACKNOWLEDGEMENTS

There are many people who I would like to thank for their input and support with this research project. I would like to thank the 29 women who participated in this research, for their courage in coming forward to share their stories with me, and in doing so, helping other survivors of drug-rape. I am also indebted to Peter and Cindy Sturman of the Drug-Rape Trust, for their strong encouragement and support of my research, and in assisting with recruitment. I would also like to express my appreciation to the Victim Support and Rape Crisis Centres who took time out of their busy schedules to assist with recruitment.

I wish to say a particularly big thank-you to Professor Val Curran at UCL, for offering me excellent supervision, support and encouragement throughout this research. Thanks also to Chris Brewin for offering advice regarding questionnaire development and the write-up. I would also like to thank Pasco Fearon for his statistical advice, and to Peter Scragg for always being there for advice and support during my time at UCL.

Finally, thanks to Luke and Rosie for being so patient, and for putting up with my ups and downs during this research.
ABSTRACT

‘Drug-rape’, an increasingly prevalent crime (Sturman, 2001), occurs when a centrally acting drug is administered to a victim to facilitate a sexual assault or rape. The effects of the drugs used include muscle relaxation, disinhibition and anterograde amnesia. Experimental and clinical research has demonstrated that these drugs impair conceptual processing and explicit memory, whilst sparing data-driven processing and implicit memory (Bishop and Curran, 1995; Curran, 2000). These drug effects share similarities with dissociation, a known predictor of PTSD (Mechanic et al, 1998). The present study is the first to systematically explore the psychological consequences of drug-rape and associated memory loss.

A retrospective self-report design was employed, using both questionnaires (N = 29) and interviews (N = 12). Participants were female drug-rape survivors (over 18 years old) who were recruited through rape support organisations. Informed by current cognitive conceptualisations of posttraumatic stress disorder (PTSD), memory and cognitive psychopharmacology (e.g. Brewin et al, 1996; Ehlers and Clark, 2000; Curran, 2000), it was hypothesised that a number of factors would predict the prevalence and severity of PTSD. This was selected as the primary outcome variable as prospective research demonstrates that most rape survivors develop PTSD (Rothbaum et al, 1992).

Eighty percent of participants reported moderate to severe PTSD, with clinical levels of anxiety and depression being reported by 90% and 69% respectively. Participants reported persistent and extensive anterograde amnesia of the rape. However, even with extensive impairment of explicit memory, all reported distressing, involuntary intrusive memories characterised by a strong sense of ‘reliving’ the rape. The
prevalence and severity of PTSD was not significantly associated with loss of consciousness during the rape, or extent of perceived amnesia, and was comparable with other trauma populations. Ratings of peritraumatic dissociation significantly predicted PTSD symptomatology, as found in previous research (e.g. Griffin et al, 1997).

A diagnosis of PTSD requires that individuals experience intense fear, helplessness or horror during trauma (criterion A2: DSM-IV, APA, 1994), and experience actual or perceived threat to physical integrity (criterion A1). Participants reported high levels of mental confusion and helplessness, but very low levels of fear during the assault, and sixty-five percent of participants reported no perceived life threat. This indicates that the drugs have significant anxiolytic effects even during rape. Consequently, over a third of participants did not meet criterion A1 or A2. Importantly, these participants reported re-experiencing, arousal and avoidance PTSD symptoms of comparable severity to those who met criterion A. In fact, reduced fear during rape was associated with higher negative appraisals, fear and PTSD post-assault.

The results of this study suggest that the drugs impair cognitive and emotional processing during sexual assault. These impairments, which show similarities to dissociation, elicit more extensive negative appraisals post-assault, and have repercussions for subsequent emotional processing. Furthermore, the results demonstrate that significant posttraumatic symptomatology is not precluded by a reduced emotional response during rape, or by persistent and severe impairment of explicit memory. The findings of this research are further considered in relation to both clinical implications and current theoretical conceptualisations of PTSD.
Chapter 1: INTRODUCTION

Media reports have highlighted the increased involvement of drugs that cause sedation and memory loss in sexual assaults, a crime that has been termed “drug-assisted sexual assault” or “drug-rape”. There are currently no accurate prevalence figures for this type of crime due to under-reporting to the police. However, the UK Drug Rape Trust received 780 calls from victims in 1999, rising to over 1,500 in 2000, suggesting that this crime is on the increase (Sturman, 2001).

Although media reports have focused largely on the use of Rohypnol (a benzodiazepine) in drug-rape cases, there is, at present, no consensus as to which drugs are most frequently used. A study of urine analyses following sexual assault undertaken via hospital accident and emergency departments in the US found that approximately one third of analyses were positive for alcohol, GHB (Gamma Hydroxybutyric Acid) or a benzodiazepine (Anglin, Spears and Hutson, 1997). This suggests that a range of drugs, including (and perhaps most commonly) alcohol may be involved (see Hindmarch and Brinkmann, 1999; Sturman, 2001; Anglin et al, 1997). Alcohol, GHB and benzodiazepines share some common cognitive, behavioural and physiological effects, which include:

- Sedation
- Anti-anxiety effects (anxiolytic), emotional numbing
- Muscle-relaxation, impaired motor co-ordination
- Impairment of autobiographical memory (anterograde amnesia)

Throughout this research, the term ‘drugs’ will therefore be used to incorporate GHB, alcohol and benzodiazepines.
To date, no clinical research has been conducted into the psychological consequences of drug-assisted sexual assault. Professionals have therefore had little information to guide their practice in supporting survivors. For example, it is not known how these drugs affect memory for an event as traumatic as rape, or how the drugs impact on emotional processing, both during and after the assault. Memory and emotional processing during the trauma (peritraumatic) are both pivotal to information processing conceptualisations of PTSD (posttraumatic stress disorder), a psychiatric condition resulting from exposure to trauma, which is particularly prevalent following rape (Rothbaum et al, 1992). It is not known whether drug-rape survivors experience posttraumatic symptomatology (intrusions, arousal, avoidance), which is similar in phenomenology and severity to ‘non-drug’ rape.

1.0. Aims of this chapter

This chapter aims to present the conceptual and clinical issues relevant to understanding the psychological impact of drug-rape. Firstly, the psychological impact of rape will be reviewed, particularly in relation to posttraumatic stress disorder (PTSD), depression and anxiety. Cognitive conceptualisations of the development and maintenance of traumatic memories and PTSD will then be critically evaluated, including the role of posttraumatic cognitive appraisals and dissociation. Neuroscience conceptualisations of PTSD and emotional memory will also be considered.

This introduction will then discuss the possible effects of GHB, alcohol and benzodiazepines on memory, emotional processing and PTSD symptomatology. Both cognitive and neuroscience perspectives will be reviewed. The cognitive, behavioural and emotional effects of the drugs on rape victims at the time of assault, and afterwards will be described in detail. Following this, the role of ‘peritraumatic’
(during the assault) emotional processing in PTSD diagnosis will then be discussed, and the possible impact of the drugs on emotional processing and PTSD considered. Research regarding dissociation at the time of trauma and its relationship to PTSD will then be considered, and the conceptual and clinical similarities between the drug effects and dissociation highlighted. Research regarding intrusive memories following trauma will then be presented, and the impact of the drugs and memory loss on PTSD symptomatology considered. Finally, cognitive-behavioural approaches to the treatment of PTSD following rape are considered in relation to drug-rape survivors.

1.1. Psychological consequences of rape and sexual assault

The reported prevalence of sexual assault varies depending on research methodology, but has been estimated at 5-9.5% (Kilpatrick et al, 1987; Koss, Gidycz and Wisniewski, 1987; Russell, 1984; Resick and Schnicke, 1990; 1993). Prospective research with female rape survivors (N=64) demonstrates that an exceptionally large proportion of rape victims subsequently develop PTSD (94% 2-weeks post-trauma, 65% at 5 weeks, 52.4% at 2-months and 47.1% at 9-months; Rothbaum et al, 1992). In that study, women who met PTSD diagnosis had more severe initial symptoms (including depression), which improved more slowly (particularly after 4 weeks). They also reported intrusive memories with a greater ‘reliving’ quality (feeling as though the memory were happening in the ‘here and now’). Such memories are often termed ‘flashbacks’. Their research suggests that women, who have a severe reaction in the first month, may be more likely to develop chronic PTSD. Resnick et al (1989, cited in Rothbaum et al, 1992) also found high rates of PTSD, where 76% of rape victims met PTSD diagnosis within the first year.

Rothbaum et al (1992) and Steketee and Foa (1987), in review articles regarding rape, note that the most prominent and persistent post-rape reactions are intense fear of
rape-related situations and general and phobic anxiety one year post-rape (e.g. Kilpatrick, Resick and Veronen, 1981). Steketee and Foa (1987) note that most symptoms, with the exception of fear and anxiety, reduce considerably by four months. Some variables also buffer the psychological effects of rape. For example, social support has been shown to reduce the immediate emotional impact of rape (Norris and Feldman-Summers, 1981), and to facilitate better long-term recovery (Ruch and Leon, 1983).

Survivors of rape often experience additional co-morbid psychological difficulties to PTSD, including panic, anxiety and depression (Weaver, Chard and Resick, 1999; Steketee and Foa, 1987). They may experience low self-esteem, interpersonal difficulties and sexual dysfunction (Steketee and Foa, 1987). Ellis, Atkeson and Calhoun (1981) found that 12% of women experienced flashbacks during sex at one year post-assault. Many women experience guilt and self-blame regarding the assault, and shame at having been raped. Shame is associated with depression (Gilbert, 2000), and Ellis, Atkeson and Calhoun (1981) found significantly higher depression in rape victims than controls three years post assault. In a follow-up to a population survey, Kilpatrick et al (1987) found that (after 21.9 years) rape survivors were more likely to be depressed than non-rape victims, suggesting rape has long-term consequences.

1.2. Rape and the legal system

Koss (1985) found that only 8% reported it to the police, and 13% to health services. Most rape cases never reach court. Only 25% of reported rapes are accepted for prosecution, 12% of defendants found guilty, and 7% of all cases result in a prison sentence (Frazier and Haney, 1996). The legal process may in itself be traumatic, as is the medical examination process and police investigation. Involvement in court proceedings has been shown to increase fear levels 6-months post-rape (Kilpatrick,
Resick and Veronen, 1981) suggesting that this is a traumatic process in itself, and may impede successful recovery.

1.3. Post traumatic stress disorder (PTSD)

PTSD is defined as incorporating exposure to a traumatic event in which physical integrity of self was perceived as threatened, and which was associated with feelings of helplessness, horror or fear (criterion A), avoidance of trauma-related stimuli (cognitive and behavioural), re-experiencing (e.g. intrusive memories, flashbacks) and increased arousal (e.g. ASR; Morgan et al, 1997) (DSM-IV: APA, 1994). PTSD was once considered a normal response to an abnormal event. However, although the severity of the stressor is positively correlated with severity and prevalence of PTSD, DSM-IV (APA, 1994) cites prevalence rates ranging from 3-58%, suggesting that there are factors other than severity of stressor that mediate PTSD reactions (Yehuda and McFarlane, 1995).

DSM-IV also stresses the role of perceived (as opposed to objective) threat to integrity in its conceptualisation of a ‘stressor’, emphasising the role of idiosyncratic beliefs and appraisals in PTSD. The majority of studies show no relationship between objective characteristics of rape and later PTSD (Steketee and Foa (1987). This is true for acquaintance versus non-acquaintance rape (Koss et al, 1988) or the presence or extent of violence (Sales, Baum and Shore, 1984; Dunmore et al, 1999). Dunmore et al (1999) found that, whilst objective measures of assault severity were not associated with PTSD severity following rape, subjective ratings of perceived threat and danger were predictive. Sales et al (1984: 125) have suggested that ‘it is possible that the actual violence of an attack is less crucial to the victim than the felt threat”. In

1 Abnormal startle response
support of this, Kilpatrick et al (1987, cited in Resick, 1993) found that subjective appraisal of life threat predicted later PTSD.

1.4. Cognitive-behavioural models of PTSD

Cognitive and information-processing models (Janoff-Bulman, 1992; Brewin et al, 1996; Foa and Kozac, 1986; Foa et al, 1989; Ehlers and Clark, 2000) have been most developed and utilised in conceptualising PTSD (Scott and Stradling, 1992). These models emphasise the disturbance of memory and emotional processing. Early models proposed a uni-level model of traumatic memory. For example, Foa and Kozac (1986) developed Lang's work (Lang, 1979) to suggest that a conditioned fear-network is formed in memory during a trauma. The network is conceptualised as containing fear stimuli, physiological, affective and behavioural response elements, and meaning. Matching stimuli may then reactivate it, evoking re-experiencing symptoms. However, these models cannot account for the individual variability in response to trauma and in PTSD symptoms over time.

Brewin, Dalgleish and Joseph (1996) proposed a Dual Representation model of PTSD, which aimed to build on earlier unitary models. It proposes 2 parallel levels of processing and memory at which trauma information is represented and processed (see figure 1a).
Situationally Accessible Memory (SAM), which is conceptually similar to Foa et al's (1989) 'fear network', represents rapid, 'low-level' peritraumatic encoding and emotional processing. SAM is associated with 'primary' peri-traumatic emotions (e.g. fear and helplessness), and lacks integration with autobiographical memory and pre-existing schemata. These memories are fragmented, and of a sensory, perceptual nature (rather than verbal) and have a 'here-and-now' quality as they do not encode spatial or temporal information. They are triggered automatically by internal or external cues, intruding into consciousness in the form of re-experiencing symptoms, but cannot be retrieved voluntarily. It is these characteristics, which have led SAM to be compared with implicit memory (e.g. procedural skills, priming and conditioning), which Schacter (1987) defines as 'the unintentional, nonconscious retrieval of previously acquired information'. Roediger and Blaxton (1987) emphasise implicit memory as low level, perceptual processing, which is similar to SAM. However, McNally (1998) proposes that Schacter's (1987) term; “involuntary explicit memory” is more applicable to SAM, which is not totally implicit.

Verbally Accessible Memory (VAM: autobiographical memory) represents the effortful, constructive, conscious processing and semantic representation of the
trauma. VAM can be deliberately retrieved and edited, and contains temporal, contextual and evaluative information regarding meaning. These memories are integrated with prior beliefs and experiences (Brewin et al, 1996). Smucker (1997) has proposed a similar dichotomy, between primary and secondary cognitive processing, where the former involves processing imagery, and the latter linguistic processing. VAM has been likened to explicit memory, which is considered to be “the conscious recollection of past experience” and incorporates contextual and elaborative processing (Roediger and Blaxton, 1987). Terms used to refer to explicit memory include personal, episodic, autobiographical, ‘flashbulb’ and semantic memory. VAM may be retrieved intentionally (voluntarily) or incidentally (e.g. involuntary intrusive autobiographical memories associated with depression and PTSD: Reynolds and Brewin, 1998; 1999).

The Dual Representation Model proposes that repeated exposure to the SAM’s enables information encoded in SAM’s to be processed, with the development of a verbal narrative and integration with other memories and temporal information. Successful emotional processing of a trauma results in a reasonably complete VAM being formed and accommodated within the belief system, which can inhibit further activation of SAM’s (Brewin, in press). In support of this, Foa et al (1995) showed that rape victims produced longer narratives at the end of therapy, suggesting that more detailed VAM is associated with complete emotional processing. Smucker (1997: 201) proposes that, “the interweaving of these two levels of processing is crucial in the successful emotional processing of traumatic material”. Brewin et al (1996) propose two possible maladaptive outcomes for emotional processing of the trauma:
1. **Chronic emotional processing:** Where the impact of the trauma is so profound, that it cannot be processed and integrated into existing schemata, and continues to intrude into consciousness in the form of SAM’s.

2. **Prematurely inhibited processing:** This may occur as a result of intense efforts to avoid reactivating SAM’s and VAM’s, preventing emotional processing from progressing. Such a reaction may also be associated with overassimilation (e.g. downplaying the severity of the event “it was not really rape”) and could lead to delayed onset PTSD.

Dual representation theory also considers the role of peri-traumatic processing in the formation of memory and development of PTSD. Processing is conceptualised as determining how the memory is represented (whether more sensory/ visual SAM’s or more semantically and verbally represented in VAM’s, with the former leading to more intense re-experiencing). Impaired consciousness, or dissociation, at the time of trauma would allow encoding of SAM’s but incomplete encoding of VAM’s, which require greater processing resources (Brewin, in press; Ehlers and Clark, 2000), leading to involuntary activation of SAM’s in the absence of a verbally accessible narrative.

### 1.5. Cognitive appraisals and PTSD

Recent research has shown peri and posttraumatic appraisals to be central to the development and maintenance of PTSD (e.g. Ehlers and Clark, 2000). Early research focused on the role of global changes in belief (e.g. Janoff-Bulman’s shattered assumptions model, 1992), and recent research has focused on more specific appraisals. For example, in a retrospective sample of 92 sexual assault survivors, negative appraisals about peritraumatic emotional and cognitive reactions, negative
perceptions of others reactions, and negative appraisal of symptoms were found to be predictive of PTSD severity, above assault severity (Dunmore et al, 1999).

Ehlers and Clark’s (2000) cognitive model of persistent PTSD proposes that people who appraise a traumatic event negatively and globally will be more likely to develop chronic PTSD. Such excessively negative appraisals as “this happened because of me”, or “the fact I can’t remember means something even more terrible happened” lead to a sense of current threat and intense fear, as the individual cannot place the event in the past or process the memory. Negative appraisals about peritraumatic reactions, post-traumatic coping and symptoms (e.g. “I will never get over this”) mediate maladaptive symptom control strategies (e.g. rumination, avoidance), and as a consequence maintain PTSD symptomatology. Foa and Riggs’s (1993) emotional processing theory similarly highlight the role of appraisal, and differentiate the impact of:

1. Pre-trauma schemata about the self, others and world
2. Memory and processing of the traumatic event (e.g. dissociation, level of consciousness)
3. Post-traumatic interpretations and evaluation of the event, and post-trauma schema change

Foa et al (1989) highlight the case of a rape survivor who only developed PTSD after hearing that the perpetrator killed his next victim. This is an example of post-traumatic reappraisal leading to UCS (unconditioned stimulus) inflation/ revaluation (Davey, 1989), which may occur following drug-rape. Foa et al also note that individuals who make internal attributions about the trauma show more severe and persistent PTSD (e.g. it happened because of the way I behaved). Resick and Schnicke’s (1993) cognitive processing theory for rape also highlights the centrality
of appraisals in PTSD, and proposes that PTSD arises partly from a conflict between pre-existing beliefs and trauma-related information. This may lead to over-accommodation (beliefs are changed excessively to accommodate the trauma e.g. “no-one is trustworthy”). Alternatively, over-assimilation may occur, where memory for the rape is misinterpreted so as to negate any belief change (e.g. “I did not struggle so it was not rape”). The aim of therapy is to challenge negative appraisals and to facilitate adaptive accommodation of the experience into existing beliefs.

Ehlers and Clark (2000) propose a reciprocal relationship exists between traumatic memory and appraisals. Recall is biased by appraisals, and hence precludes disconfirmation of maladaptive appraisals and memory loss may influence posttraumatic appraisals. In particular, Ehlers and Clark’s model proposes that how information is encoded during a trauma partially determines PTSD severity, and symptom control strategies. “Data-driven” processing is proposed to result in poor encoding and consolidation of episodic memory, exacerbating both PTSD re-experiencing symptoms and negative appraisals. In contrast, “conceptual” or “semantic” processing is proposed to facilitate adaptive memory encoding and emotional processing. This model is illustrated in figure 1b.

Re-experiencing in the form of intrusive memories is deemed necessary for effective emotional processing and resolution (Rachman, 1980). However, it is also predictive of avoidance, which inhibits emotional processing (Creamer et al, 1992). Ehlers and Steil (1995) have demonstrated that distress associated with intrusions predicts avoidance, and that level of distress is mediated by post-traumatic cognitive appraisals rather than intrusion frequency. They hypothesise that it is the appraisals (evaluative cognitions: Reynolds and Brewin, 1998) regarding the intrusion (e.g. “I didn’t try
hard enough to stop it") that mediate the avoidance and maladaptive coping strategies that maintain and exacerbate PTSD.

Treatment based on Ehlers and Clark’s model of PTSD model involves exposure therapy to habituate to intense affect associated with SAM’s and develop a verbal narrative of the trauma, cognitive therapy targeted at dysfunctional attributions and reduction of maladaptive coping strategies such as avoidance. Likewise, Foa and Riggs (1993) propose that an aim of therapy is therefore to facilitate transfer of visual/perceptual representations (SAM’s) to semantic representations, which are adaptive, and to break the vicious cycle between intrusions, appraisals, and avoidance.

Weaver et al (1998) comment on the role of cognitive appraisals for drug rape survivors:

"These rape victims will evidence PTSD symptomatology based on ‘information’ that they were raped... Trauma-focused work with victims with little (or no) memory focuses on their thoughts and fears about the experience. For example, there can be a profound impact on the individual’s sense of personal control, thoughts about the malevolence of others, and imagined ‘worst case scenarios’.”

This highlights the importance of posttraumatic memory reconstruction and negative appraisals in PTSD following drug-rape, as occur following other types of trauma.
Figure 1B: Ehlers and Clark’s Cognitive model of PTSD (2000):

**Post-trauma:**
- Disturbed autobiographical memory:
  - Poor explicit memory
  - Intact implicit memory (SAM)
  - Intense affect and ‘reliving’
  - Strong perceptual priming

**During the rape:**
- Low levels of conceptual/semantic processing
- Data-driven processing
- Dissociation
- Emotional numbing

**Memory and appraisals share a reciprocal relationship**

- Sense of current threat: Internal or external
  - Fear and distress increases
  - Maladaptive coping strategies (avoidance, thought suppression) prevent emotional processing

**PTSD symptomatology exacerbated**
- Intrusions
- Avoidance
- Arousal

**Negative posttraumatic appraisals:** E.g.
- **Self:** “I am soiled goods”
- **Self-blame:** “The rape happened because of the way I acted”
- **World:** “The world is a dangerous place, I will never be safe again”
- **Memory:** “the flashbacks mean I am losing control of my mind”
- Influenced by pre-trauma schemata

**Direct increase in PTSD**
- High levels of distress and fear associated with memories
1.6. PTSD: A cognitive neuroscience perspective

Neuroscience research has recently begun to elucidate the anatomical sites and biological processes underlying posttraumatic stress disorder. The amygdala, hippocampus and prefrontal cortex are the anatomical sites that play crucial roles in emotional and autobiographical memory formation (Cahill et al, 1992; LeDoux, 1992, 1998). The relationship of each of these sites to memory and PTSD are illustrated in figure 2, and are supported by experimental literature (e.g. Cahill et al, 1995; Squire & Zola-Morgan, 1991; Bremner et al, 1995).

Figure 2: A neuroscience model of PTSD and memory

(adapted from van der Kolk et al, 1996a, 1996b)

An inverted ‘U’ relationship between arousal and memory exists, with highly emotionally salient material being recalled more vividly (Brown and Kulick, 1977; Reisberg and Heuer, 1992). Arousal narrows attention and biases attention for threat (Matthews and McLeod, 1985; 1986), and therefore leads to high recall of central details (e.g. ‘worst moments’) and low recall of peripheral details (Koss et al, 1995; Christianson and Loftus, 1987; 1990). This is true for both experimental and clinical research (Christianson and Loftus, 1990). However, whilst emotional salience facilitates vivid ‘flashbulb’ memory formation, excessively high stimulation (or low arousal) of the
hippocampus during trauma leads to pathological memory formation and consolidation, and consequently increases the risk of PTSD.

The amygdala receives rapid sensory input from the thalamus, evaluates primary emotional meaning (e.g. threat) and guides involuntary, conditioned emotional responses (e.g. ASR\(^2\)) before the information reaches the cortex and hippocampus (LeDoux, 1998). This sub-cortical pre-attentive pathway is thought to be "fast, non-conscious, independent of processing resources, and able to carry out parallel processing of different inputs" (Christianson, 1992: 301), and is robust to levels of arousal. This non-verbal memory processing may be associated with primary emotions, SAM and conditioned emotional memory, such as conditioned fear responses. In support of this, lesions to the central nucleus of the amygdala block the fear-potentiated startle (Hitchcock and Davis, 1986), whereas electrical stimulation increases it (Rosen and Davis, 1986).

The hippocampus is thought to be crucial to explicit/ episodic memory consolidation (Squire and Zola Morgan, 1991; Bremner et al, 1995) and encoding of temporal context (Kesner, 1998). Such memory processing parallels Brewin et al’s (1996) conceptualisation of VAM, which is consciously accessible, open to appraisal and editing, and is associated with secondary, evaluative emotion. Like the amygdala, the hippocampus is rich in noradrenaline and BZ receptors. Excessive stimulation of the hippocampus during trauma (and analogues) has been shown to inhibit explicit memory consolidation through the effects of adreno-corticosteroids (LeDoux, 1998), whilst the amygdala continues to process information. Conceptual processing "requires effort, is governed by intention, and is dependent on limited processing resources" (Christianson, 1992: 301).

\(^2\) Abnormal (exaggerated) startle response
It has been proposed that extinction of fear (and PTSD) occurs via new inhibitory associations in the hippocampus (i.e. new VAM's), which may inhibit the amygdala (and SAM’s) via projections to the prefrontal cortex (Benoit et al, 1999). Brewin (in press) suggests that the more features of a memory that are represented in a VAM (episodic memory), the greater the inhibitory effect on SAM (amygdala). Features that are not represented in VAM may be more readily activated involuntarily by internal or external cues, leading to more extensive reliving symptoms. In addition, the emotions associated with SAM’s may be moderated or strengthened by top-down processing and input from the cortex (e.g. in response to a negative post-traumatic appraisal).

1.7. Modulating action of drugs on PTSD: A neuroscience perspective

The possible modulating effect of benzodiazepines, GHB and alcohol on memory processes (VAM and SAM), and on the processing of trauma-related emotions and memories are illustrated in figure 3. This shows how the drugs might impair VAM, suggesting that SAM’s would be more readily activated, resulting in more extensive reliving.

As the diagram demonstrates, the drugs cause anterograde amnesia, and particularly impair autobiographical memory (VAM) encoding at the time of the trauma and consolidation. This effect may be mediated through their effects on the hippocampus, which is rich in BZ and NA receptors and known to play a crucial role in autobiographical memory. Excessively high arousal (e.g. in response to a traumatic event) is known to impair hippocampal processing and autobiographical memory, as it has limited processing resources. However, extremely low arousal (Cahill et al, 1995) also impairs VAM encoding and consolidation. BZ’s, alcohol, and GHB all reduce emotional arousal and anxiety, cause sedation, and may also impair VAM consolidation through this mechanism.
Figure 3:
Modulating action of BZs on memory and PTSD: A neuroscience perspective

The drugs also bind to receptors in the amygdala, which received rapid sensory (non-verbal) information from the thalamus, and is responsible for eliciting rapid, non-conscious primary emotional responses such as the ASR or conditioned fear responses (Brewin, in press). It is thought that SAM formation is mediated by the amygdala, as SAM’s share conceptual similarities with conditioned emotional responses and implicit memory. As described in the previous section, the amygdala requires lower processing resources than the hippocampus, and is therefore more robust to the disrupting effects of excessively high or low arousal. Given this, ‘low level’ conceptual processing and conditioned memory (SAM) is likely to be less impaired by the drugs. However, the sedative and anti-anxiety effects are likely to impair the formation of conditioned emotional memories (e.g. ASR) to some extent.

The effects of alcohol and GHB on memory are also mediated via the amygdala and the hippocampus, and similar pathways to those described for BZ’s mediate their effects.
1.8. The impact of drugs on memory and PTSD: Cognitive perspectives

Much of the research included in this section is regarding benzodiazepines (BZ's), as there is a wealth of research regarding their cognitive effects. However, GHB (Gamma Hydroxybutyric Acid) and alcohol have also been extensively implicated in drug-rapes. These drugs also acts on GABA (Sanguineti, Angelo and Frank, 1997) and their effects on sedation and memory are thought to share similarities with BZ's, although little systematic research has been conducted regarding the effects of GHB.

Benzodiazepines have been demonstrated to have robust, dose dependent anterograde amnestic effects on episodic (autobiographical) memory (Bishop and Curran, 1995; Curran, 2000; Lister, 1985; Cole, 1986). These amnestic effects have been experimentally dissociated from their sedative/ anxiolytic effects, with sedative effects being more easily reversible (Curran, 2000). Research suggests that the amnestic effects of BZ’s may be localised in the prefrontal cortex, amygdala and hippocampus, where a high density of BZ receptors are found. High levels of anxiety have been proposed to elicit release of endogenous BZ’s, impairing memory encoding and consolidation (Barbee, 1993).

Experimental psychopharmacology research indicates that benzodiazepines do not impair short-term memory for verbal items e.g. digit span and recency effect in free recall (Mewaldt, Hinrichs and Ghoneim, 1983; Curran, 1991). BZ’s do not produce significant impairments in attention and vigilance (e.g. flunitrazepam: Smirne et al, 1989). With regards to working memory, deficits have been identified for speed of processing but not storage capacity or error rate (Curran, 1991). The most pronounced impact of BZ’s is on the acquisition of new information. The greater the demand placed on episodic memory, the greater the drug effect on performance (e.g. free recall is more impaired than recognition). Administration of BZ’s prior to learning or prior to testing
has shown that, whilst learning was slower, retrieval profile was unaltered (Mewaldt et al, 1983).

In the remember-know paradigm, remember responses are impaired, supporting the theory that BZ’s impair episodic memory (Bishop and Curran, 1995). In contrast, ‘know’ responses remain intact, indicating that semantic memory is not affected (Curran, 2000). As with people with organic amnesia, implicit memory is intact following most BZ’s (e.g. Hirshman, Passannante and Henzler (1999) found Midazolam impaired explicit memory to a greater extent than implicit), although explicit memory impairment is dose-dependent and enhanced by alcohol consumption. This is concordant with biological and cognitive evidence of a double dissociation between explicit and implicit memory (Gabrieli et al, 1995). This result has been replicated to varying degrees with different BZ’s. Procedural memory, which is expressed directly through performance, is also unaffected by BZ’s (e.g. in anagram solving tasks and perceptual-learning tasks, Curran, 1991). The degree and duration of anterograde amnesia depends on several factors, which are described in the following section.

1.9. How might these drugs affect rape victims?

To summarise, the effects of these drugs on rape victims are likely to be as follows:

- **Sedation**: (and in some cases, temporary loss of consciousness, depending on the type of drug and dosage).

- **Confusion**: Impaired cognitive processing whilst the drug is in effect

- **Muscle relaxation**: Impaired co-ordination such that the victim may appear drunk. This will also reduces the probability of physical signs of rape and injury as the victim is physically less able to resist an assault and penetration is easier.
- **Reduced anxiety and fear**: Victims may appear ‘disinhibited’ as a result of the drugs. They will not feel fear and anxiety in response to normally threatening or traumatic situations. As a result, they are more suggestible and vulnerable to abuse.

- **Anterograde amnesia**: The drugs induce a dose-dependent impairment in autobiographical memory. This means that, until the drug is completely metabolised, it impairs encoding and consolidation of *new* information into long-term memory.

Memory for events prior to administration of the drug, or after it has been metabolised are unaffected. In addition, short term, working memory and implicit memory are relatively unimpaired by the drugs.

Level of consciousness during the assault plays an important role in determining what is encoded during the rape. For individuals who were unconscious throughout the assault, no encoding of SAM’s or VAM’s could take place, leading to total amnesia. However, some survivors may *perceive* that they were unconscious throughout the assault due to the anterograde amnestic effects on VAM, when they were, in fact conscious but have no explicit long-term memory of events. Survivors may think that they ‘blacked out’, only to receive third party reports that they were ‘awake’ and interacting with other people, which was possible due the sparing of short-term memory. In such cases, it is possible that some low-level ‘data-driven’ processing occurred, and that SAM’s were encoded in the absence of conscious awareness of events (VAM). This could lead to limited (involuntary, SAM) recall under certain conditions.

The degree and duration of anterograde amnesia and other drug effects is determined by many factors. These include dosage, route of administration, and the time at which retrieval is required. Age and gender differences in metabolism are also important, with women experiencing more pronounced effects. Furthermore, weight and nutritional
status influence the effects of these drugs, with lighter individuals, or administration on an empty stomach leading to more rapid and pronounced effects. Finally, the type of drug will also partly determine the duration and intensity of its amnestic, sedative and anxiolytic effects. For example, each type of benzodiazepine has a different dose-response curve, and time course of sedative and amnestic effects. For example, Lorazepam and Rohypnol have longer peak effects than diazepam, although this drug has a more rapid onset. The point at which the assault occurs will also determine the extent of amnesia and sedation, with most severe sedation and impairment of episodic memory occurring at peak effect.

Both the sedative and amnestic effects of the drugs are likely to elicit impairment in peritraumatic cognitive processing, and significantly reduce anxiety, arousal, and affect intensity (particularly fear). Thus, at the time of the assault, victims may feel very confused, unable to make sense of what is happening or reason effectively, and are likely to feel low levels of fear. It is likely that drug-rape survivors will experience quite extensive impairment of episodic memory for the rape, and the gaps will be largely permanent where the memory was not consolidated (e.g. due to unconsciousness). Drug-rape survivors might be expected to have a fragmented, incomplete explicit memory of the trauma (VAM) as a result of poor contextual and elaborative encoding. However, low-level perceptual, non-verbal processing may occur, eliciting involuntary, situationally accessible, perceptual memories of the assault. Although these SAM's may not be associated with intense peritraumatic affect, post-traumatic appraisals of the memories may associate intense emotions with the fragmented memories. The pattern and extent of memory impairment will be influenced by the factors described above.
1.10. Emotional processing during trauma: Relationship to PTSD

Peritraumatic emotional and cognitive processing has been shown to predict PTSD onset and severity. The American Psychiatric Association’s Diagnostic and Statistical Manual (DSM-IV; APA, 1994) states that a person must meet criterion A in order to meet diagnosis for PTSD:

1. Perceived their life to be in danger (A1)
2. Experienced intense fear, helplessness or horror (A2)

Brewin et al (1996) termed these ‘primary’ peritraumatic emotions because they are experienced at the time of the trauma in the absence of extensive conscious appraisal (Grey, Holmes and Brewin, in press). Primary emotions are seen as a response to overwhelming circumstances, and are hypothesised to be re-experienced post-traumatically at a similar intensity. Interventions focus on habituation to these emotions, through ‘reliving’ (imaginai exposure).

In support of DSM-IV criteria, a longitudinal study of 138 victims of violent crime (Brewin et al, 2000) found fear, helplessness and horror to be predictive of PTSD (particularly helplessness). In addition, Reynolds and Brewin (1999) compared intrusive memories in a matched sample of PTSD and depressed patients, and found that whilst fear was associated with memories in both groups, helplessness was uniquely associated with PTSD. Marmar et al (1994) retrospectively evaluated peritraumatic emotional distress (fear, helplessness, anger, shame, guilt or frustration) in Vietnam surgical theatre staff. They found that a higher degree of emotional distress at the time was associated with higher PTSD symptomatology later. This supports DSM-IV criteria for PTSD, that higher intensity peritraumatic affect is predictive of more severe PTSD symptomatology. Recent research (e.g. Brewin Andrews and Rose, 2000; Andrews, Brewin Rose and Kirk, 2000; Grey, Holmes and Brewin, in press) has demonstrated that
intense evaluative emotions such as shame or anger, which are not included in DSM-IV, may be experienced peritraumatically, and are predictive of PTSD severity and duration.

However, Brewin, Andrews and Rose found, in their longitudinal study of victims of violent crime, that a minority of participants did not meet DSM-IV criterion A. (i.e. did not fear for their life and/ or no intense peritraumatic emotion) but still experienced PTSD symptoms of considerable severity. These individuals were found to score highly for post-traumatic shame or anger, which have been shown to independently predict PTSD through secondary cognitive appraisals (Andrews et al, 2000). This suggests that a diverse range of peritraumatic affect and post-traumatic affect associated with cognitive appraisals can precipitate and exacerbate PTSD symptoms. Intense peritraumatic ‘primary’ affect is predictive of PTSD, but not essential for its development. However, current DSM-IV definitions of criterion A do not incorporate emotional numbing, such as occurs with dissociation (and which is known to be positively associated with subsequent symptomatology).

Roemer et al (1998) retrospectively analysed emotional responses at the time of the trauma in 85 trauma survivors (Criterion A2: DSM-IV, APA, 1994), but included an emotional numbing component. Participants identified index traumatic events and rated fear, helplessness, horror and numbing on a 9-point Likert scale. Helplessness and numbing both significantly predicted arousal, avoidance and intrusions in a hierarchical regression analysis. The role of helplessness is consistent with reports that uncontrollability, mental defeat and unpredictability are powerful predictors of PTSD (Foa et al, 1989; Ehlers and Clark, 2000). Roemer et al (1998) note the limitations of their one-item measure of numbing, which may, in fact, represent multiple concepts such as dissociation, confusion, and shock. However, this suggests that impaired peritraumatic affective responses may predict PTSD severity. This is of particular
relevance to drug-rape survivors, who may experience emotional numbing at the time of the trauma.

In a retrospective study of 92 sexual and physical assault survivors, Dunmore et al (1999) found that individuals with persistent PTSD demonstrated higher levels of (peritraumatic) mental defeat, detachment (dissociation, shutting off from thoughts and emotions) and mental confusion (inability to focus on important aspects of the trauma, associated with poor semantic processing) during the assault. Those who experienced peritraumatic emotional detachment also reported more subsequent negative appraisals regarding their emotional response, which were associated with greater PTSD severity. Resick, Churchill and Falsetti (1990, cited in Resick, 1993) reported on the peritraumatic emotional and cognitive processing of rape victims. Again, confusion and disorientation was the best predictor of chronic PTSD, accounting for over 40% of the variance in scores. In a 12-week prospective study of female sexual and physical assault victims, Feeny et al (2000) also found early emotional numbing to be predictive of chronic PTSD beyond the effects of depression and dissociation.

These results suggest that peri and post-traumatic emotional numbing and confusion (possibly related to dissociation), impede emotional processing of traumatic memories and are predictive of PTSD. Benzodiazepines have strong anxiolytic, amnestic and sedative effects and have been demonstrated to blunt emotional memory, by eliminating emotional hotspots or peaks in affect (Curran and Zangan, in preparation). The effects of these drugs therefore have parallels with peritraumatic emotional numbing. It is of interest whether this would exacerbate PTSD as found by Roemer et al (1998), or protect against PTSD, as is suggested by the DSM-IV criterion A2.
1.11. Peritraumatic Dissociation and PTSD

Dissociation, which may occur at the time of, and/ or after, a traumatic event, was described by Janet (1889) as the splitting of mental experiences from consciousness, and is now defined in DSM-IV (APA, 1994: 477) as:

"Disruption in the usually integrated functions of consciousness, memory, identity or perception of the environment"

Kennerly (1996) proposes that dissociation occurs without conscious effort, leading to isolation of the traumatic event in memory. Murray (1997) summarises dissociative phenomena as including the following characteristics:

- Emotional numbing
- Depersonalisation (feeling detached from one’s own mental processes or body)
- Stupor (feeling dazed, stunned or confused)
- Altered time perception (slowing or speeding up)
- Acting on automatic pilot
- Psychogenic amnesia (an important part of the trauma cannot be recalled)

Harvey et al (1999) report evidence that peritraumatic dissociation disrupts autobiographical memory and that difficulty in retrieval accounted for 25% of the variance in PTSD occurrence at 6-months post RTA. This is congruent with cognitive models of PTSD, which highlight the centrality of disrupted information and emotional processing in PTSD (Ehlers and Clark, 2000; Brewin et al, 1996; Foa et al, 1989). Emotional processing (Rachman, 1980), deemed essential for successful resolution of symptoms, may be more difficult to achieve when dissociation has occurred (Dancu et al, 1996). Because dissociation prevents the integrated processing and experiencing of affective and sensory elements, it is harder to habituate to the traumatic memory as a
whole, as it is more fragmented and less verbally accessible (Foa and Hearst-Ikeda, 1996).

It is proposed that peritraumatic dissociation increases vulnerability to PTSD (e.g. van der Kolk and van der Hart, 1989; Marmar et al, 1994; Griffin et al, 1997; Spiegel and Cardena, 1991). Cognitive theorists propose that peritraumatic dissociation impairs encoding of autobiographical (VAM) memory and impedes emotional processing (Foa and Hearst-Ikeda, 1996; Ehlers and Clark, 2000). In contrast, ‘low level’ processing of perceptual and emotional aspects of the trauma (SAM’s) is spared. Post-traumatic processing is further impeded by the resulting confused and fragmentary memory representations, which can include amnesia (Murray, Ehlers and Mayou, 2000). This conceptualisation predicts that higher dissociation leads to more fragmented, vivid SAM’s of higher frequency, intensity and reliving quality, as VAM will be incomplete, and insufficient to inhibit the involuntary triggering of SAM’s (Brewin, in press).

Much research regarding peritraumatic dissociation has been naturalistic and retrospective, but all studies show a consistent relationship between peritraumatic dissociation and PTSD. For example, dissociation was significantly related to PTSD severity in a retrospective study with Vietnam veterans (Marmar et al, 1994). Shalev et al (1992) used the PDEQ (Marmar et al, 1994) to prospectively assess dissociation in hospital casualty patients, and found that higher peritraumatic dissociation and intrusions were associated with higher rates of PTSD six months later. Bremner and Brett (1997) explored the relationship between peritraumatic dissociation and later flashbacks and PTSD symptoms in a group of Vietnam veterans with and without PTSD. They found that those with PTSD had experienced significantly higher levels of peritraumatic dissociation, and went on to experience more posttraumatic flashbacks.
This is reflected in other prospective studies (Koopman et al, 1994; Tichenor et al, 1996; Weiss et al, 1995). For example, Shalev et al (1996) studied PTSD in Israeli injured trauma survivors (N=51) and found that it predicted 29.4% of the variance in PTSD scores 6 months later. Some studies have not found a significant relationship (e.g. Barton et al, 1996), but this has been attributed to the type of trauma e.g. road traffic accidents (RTA).

Holmes and Brewin (in press) employed an experimental dissociation paradigm to prospectively investigate the relationship between dissociation and intrusive memories. Individuals who dissociated by engaging in a dot-staring task whilst watching a traumatic film reported increased frequency of intrusions and lower verbal recall in the following weeks. The intrusions were most commonly visual. This lends supports to cognitive theories of dissociation, that it is causal in exacerbating intrusive symptomatology and disrupting memory processing.

Previous research has shown that some psychoactive drug effects (e.g. ketamine) have strong dissociative effects, both at the time of ingestion and some days later (Curran and Morgan, 2000), which may reflect pharmacological effects or predisposing characteristics of recreational users. Many of the effects of peritraumatic dissociation on affect, memory, and cognition are qualitatively similar to the effects of GHB and benzodiazepines on drug-rape victims (e.g. emotional numbing, mental confusion, helplessness, amnesia, impaired VAM). It may be that drug-rape victims experience a ‘drug-induced’ peritraumatic dissociative state, with similar effects on memory processing and PTSD severity. If this were the case, a strong correlation between ratings of peritraumatic dissociation and PTSD severity might be expected. Furthermore, if dissociation is, in part, responsible for amnesia it might be expected that amnesia would decrease over time, with a corresponding increase in verbal narrative for the rape.
1.12. Intrusive memories for trauma and PTSD

Distressing intrusive imagery is a hallmark of PTSD (vanOyen Witvliet, 1997), and is the most frequently reported symptom following trauma. Kuyken and Brewin (1995) found that depressed patients also experienced intrusive memories, including imagery. When the intrusive memories of depressed, PTSD and control groups were compared, Reynolds and Brewin (1998; 1999) found that 73% of depressed and 98% of PTSD patients reported intrusive autobiographical memories (VAM), which was experienced as a ‘past event’. However, PTSD patients experienced much higher levels of flashbacks (SAM: 43% compared with 9%), which were experienced as having a strong ‘reliving’ quality). This suggests that traumatic intrusive phenomena are qualitatively different from other forms of intrusive memory. It is possible that drug-rape survivors may report sensory intrusions (associative, situationally triggered memories) but low levels of intrusive autobiographical memories, due to the amnestic effects of the drugs.

Van der Kolk and Fisler (1995) also explored in detail the quality of intrusive traumatic memories. They used the semi-structured Traumatic Memory Inventory (TMI) to assess traumatic memories in individuals with PTSD. Traumatic memories were described as sensory, uncontrollable, vivid and with a very poor verbal narrative initially. At peak intensity 91% reported visual intrusions, 77% affective, 70% tactile, 77% olfactory, and only 47% narrative (increasing to 85% over time). Although retrospective, this study suggests that autobiographical recall may increase over time, as the memory is processed from SAM into VAM (Brewin et al, 1996). This is contrary to the views of Loftus et al (1994), who proposed that rape memories were like non-traumatic memories and subject to ‘normal forgetting’ over time (following the ‘Ebbinghaus curve’).
1.13. Memory loss and PTSD

Posttraumatic stress disorder has been reported for individuals with extensive memory loss for the traumatic event, and may occur in the absence of explicit memory (e.g. Krikorian and Layton, 1998). King (1997) reports a case of PTSD following head injury mediated by an “island” of memory. In support of the reciprocal relationship between appraisals and memory (Ehlers and Clark, 2000), and the reconstructive nature of memory (Schwartz et al, 1993), Parkes (1993) and McNeil and Greenwood (1996) report cases in which individuals who found out that their relatives had murdered experienced horrific intrusive images of what they imagined might have happened. As previous research has demonstrated, subjective perceptions of the event and appraisals are most important in predicting PTSD, and not objective memories or severity of the trauma. It is therefore possible that drug-rape survivors might develop PTSD based on “islands of memory” and/ or “worst case scenarios” (Weaver et al, 1998; Merckelbach et al, 1998). Furthermore, Bryant (1996) cites the occurrence of visual imagery in the absence of any conscious recall of the event, and drug-rape survivors may likewise experience visual intrusions even if they were unconscious at the time of the assault.

Emotional intensity, vividness and ‘reliving’ are considered indicators of veridical traumatic memories (van der Kolk and Fisler, 1995). However metamemory research suggests that attributional processes may lead to mistaken belief in inaccurate memories, particularly when memories contain strong perceptual and contextual detail (Johnson, Hashtroudi and Lindsay, 1993). Johnson et al (1988) found that adults could not easily distinguish between real and imagined childhood events. Bryant and Harvey (1998) found that traumatised individuals with objectively accurate memories (3rd party corroboration) did not differ in their ratings of perceived accuracy from individuals with amnesia for the event, or objectively inaccurate memories. Ratings for emotionality, vividness and involuntariness were also similar.
Much research regarding PTSD and amnesia has focused on head injury cases, and are therefore not directly applicable to sexual assault. However, Mechanic et al (1998) investigated amnesia (using the CAPS (Clinician Administered PTSD Scale) items) and PTSD in 92 non-treatment seeking rape victims, at both 2 weeks and 3-months post-assault. Like van der Kolk and Fisler (1995), they found that hypermnesia occurred, with more memories being recalled over time. However, a high proportion of rape survivors reported clinically significant amnesia (37% at 2 weeks and 16% at three months), which was unrelated to alcohol use, therapy, amount of discussion of the trauma, or psychopathology (e.g. depression). Extent of amnesia and PTSD severity were significantly, positively associated with level of peritraumatic dissociation. They suggest that dissociation is conceptually different from memory loss, as there is the potential for (situationally activated) recall under the right conditions, which accounts for the increase in memory over time. It is therefore of interest whether drug-rape survivors experience similar quality of intrusions and hypermnesia, as found for other trauma groups and whether hypermnesia is related to dissociation.


Individual cognitions are filtered through pre-existing beliefs, which are deemed to be of importance in an individual’s cognitive-affective response to trauma. Schemata guide attention, expectations, memory, and interpretations (Williams et al, 1992), and may incorporate socio-cultural representations as well as personal experience. For example, media representations of rape are often of stranger attacks, which might inform rape schemata. Thus, if the attacker is an acquaintance, or someone invited into the home, the victims may experience a conflict between schemata and the assault. Victims may then reconcile this by thinking “it was not really rape” or “it was my fault”, leaving the strong affect associated with the assault unprocessed (premature inhibition of processing: Brewin et al, 1996). Such over-assimilation may occur following drug-rape. Much
literature has shown that, often, people subscribe to a ‘just world belief’ in which bad things only happen to bad people, which may also lead to over-assimilation.

Psychological therapies for rape have drawn on cognitive schema and emotional processing theories (Rachman, 1980). Resick and Schnicke (1993) developed CPT\(^3\) for rape, which incorporates imaginal and in vivo exposure, and cognitive restructuring. The aim of this therapy is to facilitate emotional processing through verbal and written exposure therapy. It also aims to challenge maladaptive assimilation (which may lead to self-blame, guilt, shame), and over-accommodation (excessive belief change), which may lead to difficulties with trust and safety. McCann et al (1988) identify 5 major schematic themes that are disrupted by trauma: Power, safety, trust, self-esteem, and intimacy, all of which might be disrupted for drug-rape survivors, and be potential foci for cognitive therapy.

Current cognitive models of PTSD (Brewin et al, 1996; Ehlers and Clark, 2000) propose that imaginal exposure (to habituate to, and reduce avoidance of, intense emotions) is a central component of PTSD treatment in facilitating complete emotional processing, developing a coherent narrative of the trauma, and reducing SAM intensity. This is indeed highly appropriate when the predominant peritraumatic emotions being re-experienced in the SAM are fear, helplessness or horror (‘primary’, criterion A emotions). However, in a proportion of cases, the predominant peritraumatic affect is evaluative (shame, anger, humiliation, guilt: Brewin, Andrews and Rose, 2000). It is crucial to identify which emotions are associated appraisals occurred at the time of the rape, and which occurred post-traumatically, as different therapeutic approaches are conceptualised as being effective.

\(^3\) Cognitive Processing Therapy
For example, Grey, Holmes and Brewin (in press) reported a case series of 8 trauma patients, in which a range of intense peritraumatic emotions and cognitions were identified in emotional ‘hotspots’ (peak distress during the trauma). Fear, helplessness and horror were reported in all cases, but also peritraumatic sadness, shame, guilt, anger and disgust. They argue that any peritraumatic emotion might be encoded in a SAM and therefore re-experienced as a flashback, and that exposure therapy should not focus purely on fear. However, they also note that reliving alone is unlikely to facilitate habituation to intense evaluative emotions, which are associated with peritraumatic cognitions. They propose that, as the appraisals are encoded in the SAM, cognitive restructuring of the peritraumatic emotions should occur within reliving.

For negative post-traumatic cognitive appraisals about the trauma and its sequelae, current cognitive theories recommend that cognitive therapy strategies (Padesky, 1994) should be utilised to challenge the accuracy of maladaptive appraisals, reduce distress and avoidance and enable emotional processing to be completed. Because the appraisals and affect are encoded in VAM rather than SAM, cognitive restructuring can be undertaken outside reliving, as the memory would not need to be situationally activated for editing to take place. Resick and Schnicke (1993) also note that, as well as shattering positive beliefs, trauma may confirm pre-existing negative beliefs. Pre-existing beliefs are likely to mediate peritraumatic and posttraumatic cognitive appraisal content. Identification of pre-existing beliefs, and their differentiation from post-traumatic belief change, is an important facet of assessment and intervention for survivors of trauma, including rape. Where pre-traumatic negative schemata are identified, schema-focused therapy may be warranted (e.g. Padesky, 1994)

Drug-rape survivors may not experience extensive negative peritraumatic cognitions or peritraumatic emotional hotspots as found in other trauma groups, due to the anxiolytic,
amnestic and sedative effects of benzodiazepines. Indeed, in support of this hypothesis, psychopharmacological research has demonstrated that Valium eliminates emotional peaks ('hotspots') in emotional memory tasks (Curran and Zangan, in preparation). Drug-rape survivors may feel confused and/or emotionally numb at the time of the rape. However, if conscious, they are likely to develop some memories of the assault, which could be re-experienced and subject to negative cognitive appraisals about emotional response at the time of the rape (c.f. Dunmore et al, 1999), or the sequelae of the trauma. Exploring these appraisals and affect will enable more effective interventions to be developed for survivors of drug rape.

1.15. Aims and hypotheses:

To date, no research has been conducted to investigate the psychological impact of drug-rape and associated memory loss. The aim of this research is therefore to address this need by quantitatively describing and exploring the psychological impact of drug-rape through retrospective self-reports from survivors. In light of the empirical research regarding PTSD, memory and emotional processing presented in this introduction, and the effects of the drugs used in drug-rapes, a number of hypotheses can be made about the psychological consequences of drug-rape.

Hypothesis 1: Posttraumatic Stress Disorder

As PTSD has been demonstrated to occur in the absence of explicit memory for trauma, it is hypothesised that drug-rape survivors will report clinically significant PTSD symptoms, of a severity comparable with other 'non-drug' trauma populations.
Hypothesis 2: Peritraumatic processing and PTSD: Effects of the drugs

It is hypothesised that the anxiolytic, amnestic and sedative effects of the drugs will significantly impair peritraumatic processing, leading to confusion and reduced affect ("emotional numbing") during the assault. As a result, survivors will report low levels of 'criterion A emotions', particularly fear, during the assault.

Hypothesis 3. Posttraumatic Appraisals and PTSD

It is hypothesised that drug-rape survivors may engage in negative appraisals about the rape, which will be positively associated with PTSD symptomatology, and intense posttraumatic emotions.

Hypothesis 4. Peritraumatic Dissociation and PTSD

In 'non-drug' trauma populations, peritraumatic dissociation has been shown to be associated with more severe PTSD (e.g. Shalev et al, 1996; Holmes and Brewin, in press). It is hypothesised that pharmacologically induced dissociation will also be positively associated with PTSD severity for drug-rape survivors.

Hypothesis 5:

Selective impairment of explicit (VAM), but not implicit (or SAM) memory

The drugs used in drug-rapes impair explicit memory, but not implicit memory (Curran, 1991). It is therefore hypothesised that survivors will experience extensive amnesia for the assault, but might still experience 'flashbacks' as a result of implicit encoding and memory.
Chapter 2: RESEARCH METHODOLOGY

2.1. Design
The original design was a between-groups comparison of drug-rape and 'non-drug related' rape survivors. However, as only 5 rape participants were recruited, a retrospective, within-group questionnaire-based design was employed. Additional semi-structured interviews were conducted with a proportion of participants (see appendices 12 and 13), which will be considered in the discussion.

2.2. Statistical Power and Statistical Analyses
No previous research has been conducted with this client group on which to base a power analysis. However, based on Cohen's (1992) universal power analysis guidelines for multiple regression analysis with 2 independent variables (dissociation and posttraumatic appraisals), this study required 30 participants to detect a large effect size 80% of the time. Twenty-nine participants were recruited into the study. There was therefore a considerable risk that a small or medium effect size might not be detected due to insufficient statistical power (type II error).

To reduce the risk of type I error – the probability of detecting a significant result by chance – two strategies were employed:
1. Employing a stringent level of significance (p<0.01).
2. Where possible, collapsing highly inter-correlated subscales to minimise the number of variables included in the analyses, and the number of tests carried out.
3. Limiting multivariate analyses to testing of the key hypotheses.
2.3. Ethics

The Joint UCL/ UCLH Committees on the Ethics of Human Research granted ethical approval for this research (see appendix 1) and all research procedures comply with the conditions of ethics approval.

2.4. Participants

Participants (N = 29) were a self-selected sample of women aged between 20 and 50, with a mean age of 34, who reported having been drug-raped. A detailed description of participants and the drug-rape crimes is included in the results section. In addition, six short case studies are presented in appendix 6 to illustrate the wide range of circumstances in which the drug-rapes occurred. No descriptive information is available for those who chose not to participate in the project.

2.5. Recruitment

Participants were recruited via the following organisations:

- Rape Crisis UK
- Victim Support UK
- The Roofie Foundation: Telephone support organisation for survivors of drug-rape
- The Drug Rape Trust: Registered charity offering support and advice to survivors of drug-rape
- A short advert in a women’s magazine

Rape Crisis and Victim Support’s national offices were contacted to discuss the research aims and methodology. With their agreement, centres were approached directly and invited to participate in the project. Considerable time was taken to explain the aims of the research, the methodology and in resolving any concerns that centres might have. Staff at Rape Crisis and Victim Support centres, the Roofie Foundation and the Drug Rape Trust agreed to assist with the research and were supportive of its aims. The
information sheet regarding the research that was sent to staff at local centres is included in appendix 8.

To facilitate recruitment, the following options were available to centres and their users:

- Questionnaires could be completed anonymously to protect confidentiality.
- Participation could either involve completing the questionnaires independently, with a counsellor from Rape Crisis or Victim Support, or through a face-to-face interview with the researcher. Some participants were met at their own homes, some at UCL, and some at their local centre with their counsellor present. This flexibility within the methodology was necessary to enable participants to feel comfortable and empowered when participating in the project. In all cases, the standardised questionnaires were followed.
- Women who reported feeling suicidal were excluded from the study and directed to appropriate psychological support services.

Those centres that agreed to take part contacted women who had experienced a drug-rape and were currently, or had recently, used their service. They asked women on behalf of the author whether they would be willing to take part in the research. This maintained the anonymity of women who wished to complete the questionnaires without disclosing their name, and of those who did not wish to participate. Whilst issues of confidentiality and trust are important in all research, this is particularly true for survivors of rape, who may not have told even close family about the attack, and may have particular difficulties with trust and safety as a result of their experiences. This may be why there was a very poor response to the magazine advert. The numbers of participants recruited through each organisation are illustrated in figure 4.
The greatest proportion (nearly half) of participants was recruited through the Drug Rape Trust, with recruitment from other sources being lower.

**Issues pertaining to recruitment of sexual assault survivors**

Within the timescale of this research, it was not possible to recruit a large enough comparison group of ‘non-drug’ rape survivors. Although the author spent a considerable amount of time exploring and resolving concerns that the staff may have, some centres remained reluctant to approach their service users. Staff at Victim Support and Rape Crisis centres were often (understandably) reluctant to approach their services users and ask them whether they would be interested in participating. There were a number of reasons cited for this:

1. Limited resources and manpower at many of the centres precluded them from tracing service users and assisting with the research
2. Conflict of research interests such as when a centre was already committed to running another research project.
3. A policy of only approaching women who had spontaneously and independently asked to take part in research was common across many Victim Support and Rape Crisis Centres. As this is rarely the case, few women were recruited to the research via these centres.

4. Many of the centres commented that they only felt able to approach women who were at the “right stage” of treatment i.e. not too soon after the assault, and also not after treatment had ceased for fear of “re-opening the can of worms” and distressing women unduly.

The impact of recruitment bias on the results of this research will be considered further in the discussion.

2.6. PROCEDURE

All potential participants received a letter and information sheet explaining the research rationale, and what taking part would involve (see appendices 9a and 9b). All participants had the opportunity to talk through any questions about the research with the main researcher prior to completing the questionnaires. Consent forms (see appendix 2) were completed and returned with the completed questionnaires (with the exception of those who completed them anonymously). All participants were also given a list of names and telephone numbers of services offering support to survivors of rape. Where appropriate, and with the consent of the participant, the researcher also offered to facilitate a referral to an appropriate service on their behalf.

Each participant completed structured, quantitative questionnaire items to yield information regarding the following areas. The questionnaires are discussed in the following section:
- **Demographics**: age, details about the assault, forensic information (including drugs used in the assaults), mental health history, drug and alcohol use post-assault and post-assault psychological therapy.

- **Posttraumatic negative appraisals**: The severity of negative appraisals regarding self, world and self-blame was assessed using the Posttraumatic Cognitions Inventory (PTCI).

- **PTSD severity and diagnosis**: The severity of PTSD symptoms, and diagnostic status, was assessed using the Post-traumatic Diagnostic Scale (PTDS).

- **Peritraumatic Dissociation**: This was assessed using the Peritraumatic Dissociative Experiences Questionnaire – Self-Rater Version (PDEQ-SR).

- **Posttraumatic depression and anxiety**: The severity of these variables was assessed using the Hospital Anxiety and Depression Scale (HADS).

- The Sexual Assault memory Questionnaire was devised specifically for this research, to assess peritraumatic emotional and cognitive processing, post-traumatic memory loss, and the frequency and sensory and affective quality of intrusive memories.

Participants also indicated whether they would be willing to take part in an interview regarding their experiences. Twelve participants were interviewed subsequent to completing the questionnaires. The results of these interviews will be discussed descriptively in the discussion.

## 2.7. MEASURES

### Demographics

The questionnaire included items pertaining to age, psychiatric history, assault characteristics, post-assault counselling, forensic and legal details, and drug and alcohol
use pre and post assault. These questions can be found in appendix 2 (Sexual Assault Memories Questionnaire).

The demographic items obtained information regarding age. Psychiatric history was assessed by asking, “Before the assault, had you had any psychological/ emotional difficulties for which you received professional help?” Participants were asked to give a yes/ no response regarding depression, anxiety problems and ‘other (please specify)’. Participants were also asked whether they had received counselling or psychological therapy following the assault, whether this was ongoing, and whether the sessions were weekly, fortnightly, monthly or less. Participants were also asked how many units of alcohol and which drugs they had or had not taken voluntarily in the 12 hours prior to the assault, and about post-assault alcohol and drug use (licit and illicit).

Information about the assault obtained included who the perpetrator was (if known), results of any forensic (drug) tests, time since assault, how participants believed they were given the drug and what drug it was (if know). Participants were also asked whether the assault was reported to the police and whether court action and/ or a conviction was obtained. Objective measures of assault severity were not obtained. However, Dunmore et al (1999) found no significant differences between sexual assault victims who did or did not develop PTSD in objective assault measures, including relationship to assailant, extent to which assailant was trusted, location of assault, violence used, number of assailants, duration, or extent of injury. In contrast, Dunmore et al (1999) found that subjective ratings of perceived threat to life and perceived lack of control were predictive of PTSD severity.
Posttraumatic Cognitions Inventory (PTCI: Foa et al, 1999)

As discussed in section 1.5. of the introduction, a strong relationship has been demonstrated between negative posttraumatic appraisals and PTSD severity. The Post-Traumatic Cognitions Inventory (PTCI: see appendix 3) was administered to all participants to assess the extent of negative post-traumatic appraisals. This is a 33-item scale, developed by Foa et al (1999), which aims to measure the extent of negative appraisals about the trauma and its sequelae. The PTCI yields a total maximum score of 231 and a higher score represents a higher degree of negative appraisals. Each item is rated on a 1-7 Likert scale where 1 = totally disagree, 4 = neutral and 7 = agree totally. The questionnaire also gives scores for the following sub-scales, identified by principal components factor analysis:

1. Negative cognitions about self (N=21, maximum score = 147)
2. Negative cognitions about the world (N=7, maximum score = 49)
3. Self-blame (N=5, maximum score = 35)

Foa et al (1999) administered the questionnaire to a diverse group of 601 trauma patients and controls, along with measures of PTSD (PTDS Scale, Foa, 1995). Participants were grouped into 3 categories:

1. Experienced Criterion A event and have at least moderate symptoms of PTSD (PTDS >=15), N = 170. A significantly higher proportion of sexual assault survivors fell into this category than category 2 below.
2. Experienced Criterion A event but did not have PTSD, and had low severity of symptoms (PTDS <15), N = 185.
3. Non-traumatised individuals who scored <15 on the PTDS for PTSD severity

All subscales were significantly correlated with one another and with the overall PTCI score. Individual items were selected for their wide applicability to different traumas. Internal consistencies using Cronbach’s Alpha for the total score (α = 0.97), World Scale
(α = 0.88), Self Blame Scale (α = 0.86) and Negative Cognitions about Self Scale (α = 0.97) were all high. In addition, test-retest reliability was high for all scales at 1 week (p>0.74 for all scales) and 3 weeks (p>0.80). Convergent validity with comparable scales from the PBRS was reasonable, with Spearman’s correlation coefficients of >0.60 for all scales except Self Blame, for which a coefficient of 0.50 was found. All three subscales and the total correlated substantially with PTSD significantly (r = 0.57 to 0.79), even when depression and anxiety were controlled.

The PTCI has been shown to effectively discriminate between individuals with and without PTSD, even when differences in type of assault, depression or anxiety were controlled. Individuals who had experienced a criterion A event but had low PTSD symptoms (<15) scored significantly lower on the PTCI than those with more severe PTSD (≥15), as did non-traumatised individuals. Discriminant function analysis showed the PTCI to classify 86% of traumatised individuals correctly as to diagnosis, with a high specificity of 0.93 and sensitivity of 0.78. The authors suggest that given these characteristics, the PTCI is a useful clinical and research tool for identifying dysfunctional cognitions, and monitoring therapeutic change. It also has the benefit of being considerably shorter than the PBRS without compromising reliability or validity.

**Posttraumatic Diagnostic Scale (PTDS: Foa, 1995)**

PTSD severity and diagnosis was assessed using the Post Traumatic Stress Diagnostic Scale (see appendix 4), a self-report questionnaire, which yields both a diagnosis and severity score. This measure was selected for its psychometric properties, and also because of its use with female sexual assault survivors in previous research (e.g. Griffin et al, 1997). Participants are asked to rate to what extent they are troubled by each of the PTSD symptom groups (arousal, re-experiencing and avoidance) specified in DSM-IV (APA, 1994) on a 4-point Likert scale:
The PTDS yields severity scores for each subscale and an overall score by adding together the severity of the arousal, re-experiencing and avoidance subscale scores. Foa (1995) identifies the following cut-offs for severity (based on a female assault population): 1-10: mild; 11-20: moderate; 21-35: moderate to severe; 36-51: severe. The PTDS also yields a dichotomous PTSD diagnosis according to DSM-IV criteria A-F (APA, 1994). This includes assessment of criterion A, onset and duration of symptoms and level of impairment (criterion F), which are not included in other self-report questionnaires.

The PTDS was developed from the PSS-SR (Foa et al, 1993), a 17-item self-report scale (modified for the PTDS) that measures severity of DSM-III-R symptom criteria (avoidance, arousal and re-experiencing) on the same 4-point Likert scale used in the PTDS. This scale demonstrated good psychometric properties in a sample of female recent assault victims. This suggests that the PSS-SR is a good assessment tool for PTSD with female assault victims. However, Foa et al (1997) note that this measure does not address DSM-IV criteria adequately for a complete diagnosis and consequently devised the PTDS.

Foa et al (1997) validated the PTDS with a sample of 248 male and female participants recruited from trauma treatment centres and non-treatment seeking populations. The sample was diverse with regards to type of trauma but 47% of participants had experienced a sexual assault. Mean severity scores for all scales were significantly
higher for those who met PTSD diagnosis on the SCID. Foa et al (1997) found high Cronbach’s internal consistencies of $\alpha = 0.92$ for the total severity score, Re-experiencing $\alpha = 0.78$, Avoidance $\alpha = 0.84$ and Arousal $\alpha = 0.84$, suggesting that the items in each symptom cluster measures unified constructs. All sub-scales were significantly correlated with one another (range = 0.73-0.82) and all significantly correlated with the overall score (0.73-0.94, p<0.001).

Foa et al (1997) assessed test-retest reliability for PTSD severity. When naturalistic changes in severity were accounted for, adjusted reliability coefficients were 0.83 for overall severity, Re-experiencing = 0.77 Avoidance: = 0.81 and Arousal: = 0.85. In an analysis of convergent validity (N=230), good agreement with the Impact of Events Scale (IES: Weiss and Marmar, 1997), a commonly used measure of PTSD severity, was found ($r = 0.78$ for overall severity scores). In addition, the PTDS re-experiencing subscale was highly correlated with the IES intrusions subscale ($r = 0.77$).

PTSD diagnosis using the PTDS has been shown to have good sensitivity and specificity as well as high diagnostic agreement with the SCID PTSD module (Structured Clinical Interview for the DSM-III-R: Spitzer, Williams, Gibbons and First, 1990). Convergent validity for diagnosis yielded a Kappa of 0.65, with 82% agreement between the SCID and PTDS (Foa et al, 1997), suggesting sufficient agreement between the two measures. Diagnostic sensitivity (to identify cases) of the PTDS was 0.89 and specificity was 0.75. Earlier convergent validity for diagnosis on the PTDS (Foa, 1995) revealed a similar kappa of 0.59, with 79.4% agreement between the 2 measures. The sensitivity of the PTDS (to detect people with PTSD) was 82% and specificity (to detect people without PTSD) was 76.7%, suggesting again that it has good agreement with the SCID, which is the ‘gold standard’ for diagnosis. Foa (1995) reported test-retest reliability on the PTDS
with regards to PTSD diagnosis showed agreement of 87%, and a kappa of 0.74 (N =110).

Foa et al (1997) note that whilst questionnaire measures are a useful screening and research tool, completely accurate diagnosis can only be attained through a clinical interview. However, the PTDS is the only self-report questionnaire measure to provide both a measure of severity, and a PTSD diagnosis that corresponds to all 6 DSM-IV criteria for PTSD, including criteria A1 and A2. It has been shown to be a reliable and valid screening tool and has been used with sexual assault survivors and published data are available.

Peritraumatic Dissociative Experiences Scale (PDEQ-SR: Marmar et al, 1997)
The PDEQ (see appendix 5) is a 10-item self-report measure that aims to assess the severity and type of dissociation experienced at the time of the traumatic event. Each item is rated on a 1-5 scale as follows: 1 = Not at all true, 2 = Slightly true, 3 = Somewhat true, 4 = Very true, and 5 = Extremely true. There are 10-items and the total score range is 0 - 50.

Peritraumatic dissociation has been indicated as an important predictor of PTSD severity in prospective research (see section 1.11 of the introduction). Marmar et al (1994) note that dissociation may involve disturbance of time, place or person, including feeling that time is slowing or speeding up, depersonalisation, derealisation, confusion, disorientation, out-of-body sensations, and altered perceptual experiences e.g. pain. The PDEQ aims to assess these experiences and contains items regarding derealisation, out of body experiences, altered time perception, and amnesia. Marmar et al (1994) reported a Cronbach’s Alpha of 0.80 for a sample of 251 Vietnam veterans. In another retrospective study, Shalev et al (1996) identified a similar level of internal consistency
(Cronbach’s $\alpha = 0.79$). In a prospective study of PTSD and dissociation, Shalev et al (1996) reported Cronbach’s Alpha to be 0.77.

The Dissociative Experiences Scale (DES: Bernstein and Putnam, 1986) is strongly correlated with the PDEQ, and both were found to be predictive of PTSD severity in a sample of 367 emergency service personnel (Marmar et al, 1994). Tichenor et al (1996) reported a similar result for a sample 77 female theatre veterans from Vietnam. Research with female sexual assault survivors (Griffin et al, 1997) has also shown PDEQ score to be predictive of PTSD. There is currently only limited psychometric data for the PDEQ, particularly regarding test-retest reliability and its use with non-service trauma populations.

Finally, Weiss et al (1995) studied predictors of PTSD in a large sample of emergency service personnel. PDEQ score significantly predicted PTSD severity (measured with the Mississippi PTSD scale) independently of other predictors, including the DES (which measures general dissociative tendencies), accounting for 16% of the variance in scores.

**Hospital Anxiety and Depression Scale (HADS, Zigmond and Snaith, 1983)**

Anxiety symptoms (e.g. panic) and depression are commonly experienced co-morbidly with PTSD (see section 1.1. of the introduction), and were therefore assessed for drug-rape survivors using the Hospital Anxiety and Depression Scale (HADS). The HADS was developed for use with hospital populations, and includes 2 subscales, the A-scale (current anxiety) and the D-Scale (current depression). Both scales’ have 7 items, which are rated on a 0-3 scale with a maximum score of 21. Zigmond and Snaith (1983) suggest the following cut-off scores: 0-7: Normal range; 8-10: Mild; 11-14: Moderate; 15-21: Severe.
The anxiety scale was designed to measure restlessness, anxious cognitions and anxious mood state. Turner and Lee (1998) note that many trauma survivors have physical complaints such as pain, inclusion of somatic complaints might confound measurement of anxiety as a psychological construct. As the HADS was devised for use with hospital outpatients, many somatic features of anxiety are not included, which is an advantage. The HADS also benefits from its brevity and ease of completion. The depression scale focuses largely on upon loss of interest and diminished pleasure (anhedonia), which Turner and Lee note as being a reliable indicator of depression. Test-retest reliability revealed that scores were significantly correlated over time (0.89 for the HADS-A and 0.92 for the HADS-D).

Zigmond and Snaith (1983) correlated the subscales with five-point psychiatric rating scales of depression and anxiety (N = 100 medical outpatients). They reported convergent validity to be good, with correlations of 0.54 for the anxiety scale, and 0.79 for the depression scale. Convergent validity has also been found for psychiatric populations (Bramley et al, 1988). Zigmond and Snaith (1983) reported adequate Cronbach’s Alpha Coefficients for internal consistencies of 0.76 for the Anxiety scale and 0.60 for Depression (N = 50). Higher Alpha’s have been reported in subsequent studies (e.g. Moorey et al, 1991 with a sample of cancer patients found an alpha coefficient of 0.90 for depression and 0.93 for anxiety). Factor analysis of the HADS with cancer patients (N = 568) demonstrated two factors - anxiety and depression, which accounted for over 50% of the variance (Moorey et al, 1991).

**Sexual Assault Memory Questionnaire:**

*Emotional and cognitive processing, and intrusive memories*

The Sexual Assault Memory Questionnaire (SAMQ: in appendix 2) was devised specifically for the purposes of this research, as no appropriate published measure
existed. The aim was to gain detailed, descriptive ratings of the quality and quantity of peri and posttraumatic affect, intrusive memories and memory loss.

Some items were adapted from the Traumatic Memory Inventory (TMI: van der Kolk and Fisler, 1995). The TMI is a 60-item structured interview regarding the sensory, affective quality of a target traumatic memory, and how the individual copes with these memories. The TMI asks participants to retrospectively rate these qualities of their memories ‘initially’, ‘at their peak (most intense’) and ‘currently’. To enable ease of self-completion the SAMQ asked only about memories in the month after the assault and in the last month/last few weeks. The development of the SAMQ also drew substantially on the work of Reynolds and Brewin (1998; 1999) who used a semi-structured memory interview to elicit detailed descriptions of intrusive memory phenomena associated with both depression and PTSD. Items from these pre-published questionnaires were utilised where appropriate to enable comparisons to be made between drug-rape survivors and other published literature regarding traumatic memories.

Peritraumatic processing: ‘Thoughts and feelings during the assault’

Evidence of the centrality of peritraumatic emotional and cognitive processing in PTSD is presented in sections 1.10 and 1.11 of the introduction. Participants were asked to rate the extent to which they remembered what was going through their mind at the time of the assault (1 = Everything, 2 = Some thoughts, 3 = No recollection). They were also asked to describe the most distressing thought they had during the assault, and to rate the associated level of distress. (0 = none, 1 = mild, 2 = moderate, 3 = severe, 4 = extreme). Peritraumatic emotional processing was assessed by asking, “Which feelings or emotions did you feel at the time of the rape. How strongly did you feel them?” Criterion A (Fear, Helplessness and Horror) and evaluative emotions (Guilt, Shame,
Anger, Other (please specify)) were listed, and participants were instructed to rate how intensely they felt each (on a 0-4 scale, where 0 = Not at all/ numb and 4 = Extremely intensely).

Perceived threat to life and injury at the time of the trauma was assessed using the PTDS so was not included in this questionnaire.

**Intrusive memories/ flashbacks in the month after the assault and in the last month:**

The questions used to elicit information regarding intrusive memories were identical for these 2 time points, so are described jointly in this section. Firstly, a definition of intrusive memories was stated (see appendices) and differentiated from deliberate thoughts about the event. The frequency of intrusive memories was assessed using the frequency scale from the Clinician Administered PTSD Scale (CAPS: Blake et al, 1990; 1995) (0 = never, 1 = once or twice, 2 = once or twice a week, 3 = several times a week, 4 = several times a week and 5 = daily or almost daily). Sensory modality of intrusive memories was evaluated using items from the TMI. Participants were asked, “What were/ are these intrusive memories like when they come to mind?” Ratings were obtained for presence of images, film clips, bodily sensations (tactile), smells, sounds, intense emotions and thoughts. A rating of how often each was experienced was obtained via a rating scale of 0 –3 (where 0 = never, 1 = occasionally, 2 = often, and 3 = almost always). Intensity of affect associated with intrusions was evaluated by asking, “What feelings or emotions do you experience along with these intrusive memories? How strongly do you feel each emotion?” Affect type and intensity was rated as for peritraumatic affect.

Research has demonstrated that situationally accessible intrusive memories (SAM’s: Brewin et al, 1996) have a higher level of perceptual vividness, are less controllable (as
they are triggered by associative cues) and evoke a greater sense of ‘reliving’ the traumatic event in the here-and-now (associated with poor contextual and temporal cues) (e.g. van der Kolk and Fisler, 1995). Therefore high scores on these items would indicate that the intrusive memory was a SAM rather than an autobiographical memory (VAM). *Vividness* was rated on a scale of 0-3 (0 = Not at all vivid/ no memories, 1 = unclear or fragmented, 2 = some detail and 3 = very clear/ vivid). *Distress* associated with intrusions was rated using the CAPS distress item (an anchored scale of 0-4, see appendix), *control* over intrusions was assessed by asking, “How much control did you have over these memories (e.g. in when they came to mind, or in stopping thinking about them)” and was rated on a 0-5 scale (0 = No Control and 5 = Total Control). *Reliving* was assessed by asking, “To what extent do these memories feel as though you are/ were re-experiencing part of the rape now, as though it were happening to you now rather than looking back at the past?” Again, this was rated on a 0-5 scale (0 = No reliving/ in the past and 5 = Totally/ intense reliving).

Finally, for each time-point participants were asked to rate how accurate they perceived their memories to be (0 = Totally unsure and 10 = Completely certain is accurate), and the extent to which they perceived they were sure about their memories with regards to time, place, persons, and events (from 0-100%). The latter item was adapted from the TMI.

**Verbal narrative (autobiographical memory)**

Research has demonstrated that traumatic events and benzodiazepines disrupt autobiographical memory formation and processing (van der Kolk and Fisler, 1995; Curran, 2000). To evaluate disruption to autobiographical (verbally accessible) memory, participants were asked (for both initially, and in the last few weeks), “To what extent do/ did your memories of the assault form a complete ‘story’ of what happened that you
feel able to explain to others?” This was rated on a 0-10 scale (0 = Not at all and 10 = Totally able to tell others what happened).

**Perceived memory change over time:**
To estimate the extent to which memory reconstruction had occurred (in addition to measuring extent of memory gaps and verbal narrative initially and now), participants were asked, “Has your memory of the rape changed over time?” The response was rated from 0-5 (0 = Not at all and 5 = Completely changed). This was followed with, “If your memory has changed, please describe in what way e.g. content, amount remembered”.

**Coping with memories and memory loss:**
This section evaluated what strategies participants employed to cope with their memory loss. To assess whether participants chose to or were able to validate their memories with others, they were asked, “Have you checked out what happened/ what you remember with other people?” (0 = Nobody available to check with, 1 = Someone was available to check with but I chose not to, and 2 = Yes, someone available to check with and I did ask them).

Rumination about the assault was evaluated with the following item: “Since the assault, have you found yourself wanting to go over and over what happened in your mind?” and was rated on a 0-5 scale (0 = Not at all and 5 = Very much so). Thought suppression was assessed using the same scale, and by asking, “Have you made an effort not to think about the assault since it happened, or to push the memories out of your mind?”
Chapter 3: RESULTS

This chapter describes the results of the research as follows: Firstly, data preparation is discussed, followed by presentation of demographic information regarding the participants, including age, assault characteristics, drug and alcohol used, mental health history and post assault counselling. Section 3 describes forensic and legal outcomes, including drug test results, and reporting to the police.

Section 4 describes severity data for PTSD, depression and anxiety and compares the outcome data with published scores. This section also includes prevalence data for PTSD diagnosis, and the relationship between diagnosis, severity and DSM-IV Criterion A. In Section 5, the prevalence and intensity of peri and posttraumatic ‘primary’ (fear, helplessness and horror) and ‘evaluative’ (guilt, shame and anger) emotions is described, and their relationship with PTSD severity explored. Detailed descriptions of the extent of memory loss/amnesia, how participants coped with memory loss, change in memory characteristics over time, and the frequency and quality of intrusive posttraumatic memories is presented in Section 6. This section also includes a descriptive comparison with intrusive memory characteristics of other trauma populations.

Severity scores for peritraumatic dissociation (PDEQ) and negative posttraumatic appraisals (PTCI) are presented in Section 7, and compared with published scores. The relationship of pre-morbid mental health status and post-trauma counselling with these variables and PTSD severity is also considered in this section. Following this, the extent to which amnesia, peritraumatic dissociation and posttraumatic appraisals independently predict PTSD was evaluated with multiple regression analysis, and the results described in Section 8. In addition, the relationship of memory characteristics, including reliving,
controllability and distress with extent of dissociation, posttraumatic negative appraisals and PTSD is explored.

A summary of the main findings is presented at the end of the results section. In addition, descriptive data from the interviews can be found in appendix 13.

**Section 3.1. Data preparation**

Z-score analysis and the Kolmogorov-Smirnov test of normality were performed for all variables (see table 1). A number of variables were not normally distributed. The scores are shown below. Where necessary, square root transformations were carried out to correct the distributions to enable parametric statistical analyses to be carried out.

One outlier was identified for time since assault for participant 28 (3.72 SD above the mean). One outlier was identified for the PDEQ score for participant 11 (3.38SD below the mean). These variables were included in the preliminary descriptive statistics, but were then considered missing and excluded from further statistical analysis.
Table 1: Tests of Normality for variables
(- indicates that no transformation was necessary)

<table>
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<th>Variable:</th>
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<th>After transformation</th>
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<td></td>
<td>Kolmogorov-Smirnov</td>
<td>P-value</td>
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<td>PTDS Severity</td>
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<td>Re-experiencing</td>
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<td>-</td>
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<tr>
<td>Avoidance</td>
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<td>-</td>
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<tr>
<td>Arousal</td>
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</tr>
<tr>
<td>PTCI Self-blame</td>
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<tr>
<td>PTCI Self</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

The transformed variables were used in all parametric statistical analyses.

Internal consistencies of measures (Cronbach’s alpha): These were calculated for all the measures that were included in main statistical analysis, and were as follows:

1. PDEQ = 0.74 (number of items = 10, N=29)
2. PTCI = 0.95 (number of items = 33, N=27)
3. PTCI Self-blame = 0.79 (number of items = 5, N=27)
4. PTCI World = 0.85 (number of items = 7, N=27)
5. PTCI Self = 0.96 (number of items = 21, N=27)
6. PTDS Re-Experiencing sub-scale = 0.77 (number of items = 5, N=29)
7. PTDS Avoidance sub-scale = 0.74 (number of items = 7, N=29)
8. PTDS Arousal sub-scale = 0.75 (number of items = 5, N=29)
9. PTDS Total Score = 0.88 (number of items = 17, N=29)
All measures (and subscales) showed acceptable internal consistency, suggesting that each scale satisfactorily measured the unitary concept it purported to.

**Section 3.2: Demographics**

**Time since assault:** The mean time since assault for drug-rape survivors was 23.57 months (SD = 15.77) with a range of 2-62 months (and one outlier of 109 months). The most frequently reported times since assault were between 22.5 and 27.5 months.

**Alcohol and Drugs taken voluntarily in the 12 hour prior to assault:** Three participants reported using illicit drugs (2 cocaine, and 1 amphetamine). The mean number of units drunk in the 12 hour prior to assault was 2.98 (2.75). Amount of alcohol consumed (units) was not significantly correlated with subjective ratings of the amount of consciousness during the assault ($r = -0.14, p = 0.47$). Alcohol consumption was not significantly correlated with amount of memory loss in the last few weeks ($r = 0.20, p = 0.299$), or with mean intensity of emotion experienced at the time of the assault ($r = -0.034, p = 0.861$). This suggests that peri-traumatic processing (affect) and later memory difficulties were not significantly influenced by alcohol consumption.

**Mental health problems (emotional difficulties) pre-assault:** Nine participants (31%) reported having experienced at least one period of emotional difficulties prior to the assault. Of these, two reported having had anxiety problems (e.g. panic) and six reported previous episodes of depression. Participants reported no other mental health difficulties.

**Support post assault: Counselling/Psychological therapy:** Eight (27.6%) reported having had no counselling since the assault, 8 (27.6%) reported weekly counselling, 8
fortnightly (27.6%), and 5 had one-off counselling session. Counselling was ongoing for 13 of the women.

**Section 3.3. Forensic and legal outcomes**

Twenty-one participants had reported the rape to the police, often not until >3 days post-assault. This delay resulted from confusion and difficulty in recalling events, and in many cases, precluded the possibility of forensic testing, as the drugs were not detectable by normal methods at this time. In 14 cases no forensic tests were carried out, and of the 7 who had forensic tests two were positive (one for Valium, and one for diazepam and codeine), and 5 were negative. None of the drug-rape survivors had successfully secured convictions against the perpetrators. For many, (N=16) a lack of forensic evidence or not remembering whom the perpetrator precluded legal action. For 2 participants, court action was unsuccessful and for others (N=7), prosecution was attempted but the case did not reach court.

**Section 3.4. Severity of PTSD, Depression, and Anxiety**

All 29 participants met criterion E for PTSD (Symptom onset and duration). Of these, three participants reported delayed-onset PTSD (>6 months after trauma).

**Severity of anxiety and depression: Hospital Anxiety and Depression Scale**

The HADS Anxiety and Depression subscales both have a maximum score of 21. Zigmond and Snaith (1983) suggest the following cut-off scores: 0-7: Normal range; 8-10: Mild; 11-14: Moderate; 15-21: Severe. The mean scores and severity ratings are shown in tables 2a and 2b.
Table 2a: Anxiety and Depression Mean severity for drug rape survivors

<table>
<thead>
<tr>
<th>Outcome scale:</th>
<th>Mean (SD)</th>
<th>Range</th>
<th>Mean severity rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>HADS-D Depression</td>
<td>11.65 (2.80)</td>
<td>6-17</td>
<td>Moderate</td>
</tr>
<tr>
<td>HADS-A Anxiety</td>
<td>15.21 (2.87)</td>
<td>10-20</td>
<td>Severe</td>
</tr>
</tbody>
</table>

Table 2b: Anxiety and Depression frequency of each severity rating

<table>
<thead>
<tr>
<th>Severity rating</th>
<th>HADS Anxiety Subscale (N=28, 1 missing)</th>
<th>HADS Depression Subscale (N=28, 1 missing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (0-7)</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Mild (8-10)</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Moderate (11-14)</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Severe (15-21)</td>
<td>18</td>
<td>4</td>
</tr>
</tbody>
</table>

The HADS-D and HADS-A subscales were strongly inter-correlated ($r = 0.595$, $p = 0.001$). As scores for depression ($r = 0.58$, $p = 0.001$), and anxiety ($r = 0.51$, $p = 0.006$) both correlated moderately to highly with PTSD severity, PTSD severity was used as the dependent variable for further multivariate statistical analyses.

Severity of PTSD symptomatology (Post-Traumatic Diagnostic Scale)

Level of impairment (DSM-IV Criterion F): In order to enable a diagnosis of PTSD to be made, the PTDS includes 9 questions relating to the impact of the trauma on life functioning, each requiring a dichotomous yes or no response. A score of 7-8 is rated as severe, 2-6 is moderate and 1-2 mild (Foa, 1995). Fourteen participants reported severe impairment of functioning, 10 reported moderate impairment, and 4 reported mild.
Table 3: DSM-IV criterion F: Frequency of each type of impairment

<table>
<thead>
<tr>
<th>Impairment</th>
<th>Yes (N/29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships and friends</td>
<td>21</td>
</tr>
<tr>
<td>Household Chores</td>
<td>12</td>
</tr>
<tr>
<td>Work</td>
<td>20</td>
</tr>
<tr>
<td>College work/ study</td>
<td>10</td>
</tr>
<tr>
<td>Fun and leisure activities</td>
<td>21</td>
</tr>
<tr>
<td>Sex life</td>
<td>26</td>
</tr>
<tr>
<td>Family relationships</td>
<td>15</td>
</tr>
<tr>
<td>General life satisfaction</td>
<td>25</td>
</tr>
<tr>
<td>Overall functioning</td>
<td>22</td>
</tr>
</tbody>
</table>

As table 3 shows, overall functioning and general life satisfaction was rated as impaired by the majority of participants. Sex life was rated most frequently (N=26) as being impaired. General life satisfaction and overall functioning were also rated as impaired by a majority of participants.

PTSD symptom severity:

The PTDS yields a total severity score by adding together the severity of the arousal, re-experiencing and avoidance subscale scores. Each item is rated on a scale of 0-3 with a higher score indicating more severe symptoms. Foa (1995) identifies the following cut-offs for severity (based on a female assault population): 1-10: mild; 11-20: moderate; 21-35: moderate to severe; 36-51: severe. Twenty-one (72.3%) drug-rape survivors experienced symptoms in the moderate-severe range or above with five in the mild range and three in the moderate range. The mean scores are shown in table 4.
Table 4: PTSD severity (total and subscales) for drug-rape survivors

<table>
<thead>
<tr>
<th>Outcome scale: (N = 29)</th>
<th>Mean (SD)</th>
<th>Range</th>
<th>Criterion for PTSD diagnosis met (N/29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD Severity (X/51)</td>
<td>25.72 (10.13)</td>
<td>6-40</td>
<td>24 (PTDS&gt;15)</td>
</tr>
<tr>
<td>Re-experiencing (X/15)</td>
<td>6.79 (3.09)</td>
<td>1-12</td>
<td>29 (all)</td>
</tr>
<tr>
<td>Arousal (X/15)</td>
<td>8.66 (3.58)</td>
<td>2-15</td>
<td>29 (all)</td>
</tr>
<tr>
<td>Avoidance (X/21)</td>
<td>10.38 (4.65)</td>
<td>3-18</td>
<td>26</td>
</tr>
<tr>
<td>Impairment (N/8)</td>
<td>6.45 (2.79)</td>
<td>1-8</td>
<td>26</td>
</tr>
</tbody>
</table>

PTSD Symptom severity: Comparison with published scores:

Foa et al (1997) validated the Post Traumatic Diagnostic Scale (PTDS) as a measure of PTSD with 248 trauma survivors, including rape (22%, known assailant; 25%, unknown assailant). Mean PTSD severity scores for drug-rape survivors are comparable to Foa et al’s sample (see table 5).

Table 5:

PTSD scores from Foa et al (1997): Comparison with drug-rape participants

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Severity</td>
<td>26.3 (11.9)</td>
<td>23.41 (14.68)</td>
<td>25.27 (10.13)</td>
</tr>
<tr>
<td>Re-experiencing</td>
<td>--</td>
<td>6.38 (4.35)</td>
<td>6.97 (3.09)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>--</td>
<td>9.23 (6.60)</td>
<td>10.38 (3.09)</td>
</tr>
<tr>
<td>Arousal</td>
<td>--</td>
<td>7.80 (5.01)</td>
<td>8.66 (3.58)</td>
</tr>
</tbody>
</table>

The PTDS was used to assess symptom severity in a large, diverse trauma population (Foa et al, 1999). They used a cut-off score of 15 on the PTDS to differentiate participants with and without PTSD. Again, scores for the ‘high’ (>15) PTSD drug-rape
groups are comparable with Foa et al's group, suggesting similar severity of PTSD (see table 6).

Table 6: PTSD severity scores from Foa et al (1999): Comparison with Drug-rape sample

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PDS&lt;15 (N=185)</td>
<td>PDS&lt;15 (N=5)</td>
<td>PDS &gt; 15 (N=170)</td>
<td>PDS ≥ 15 (N=24)</td>
</tr>
<tr>
<td>4.3 (4.3)</td>
<td>8.60 (1.67)</td>
<td>30.6 (9.1)</td>
<td>29.29 (6.89)</td>
</tr>
</tbody>
</table>

This lends support to the hypothesis that, even with extensive memory loss, drug-rape survivors may experience PTSD of clinically significant severity comparable to other trauma populations.

Diagnosis of PTSD: Relationship with DSM-IV Criterion A1 and A2:

The PTDS yields a dichotomous PTSD diagnosis according to DSM-IV criteria A-F (APA, 1994). This diagnosis has been shown to have good sensitivity and specificity as well as high diagnostic agreement with the SCID PTSD module (Structured Clinical Interview for the DSM-III-R (Spitzer, Williams, Gibbons and First, 1990). For the purpose of this study, diagnosis was further split into 3 categories. The Pie Chart (figure 5) shows the proportion of participants who:

- **Yes**: Met all DSM-IV diagnostic criteria for PTSD (A-F) on the PTDS
- **No**: Failed to meet 2 or more criteria of A-F
- **Except Criterion A**: Met the criteria with the exception of criterion A (i.e. they did not experience fear or helplessness, and/ or did not fear for their life at the time of the assault).

---

4 Criterion A: Must include perceived danger or injury (A1) and intense helplessness, fear or horror (A2)
Severity of PTSD: relationship with diagnosis and criterion A (1 and 2):

It was hypothesised that those participants who met all criteria for PTSD except criterion A would experience significant PTSD symptom severity comparable to those who did meet criterion A for PTSD. A one way between subjects ANOVA was carried out to evaluate the mean PTSD severity score in relation to PTSD diagnosis. A significant difference in mean severity score was found between the groups, $F (2, 26) = 9.19$, $p=0.001$. Mean severity scores by diagnosis are shown in table 7.

Table 7: Mean PTSD severity scores by diagnosis

<table>
<thead>
<tr>
<th></th>
<th>PTSD (N=14)</th>
<th>Not PTSD (N=4)</th>
<th>No Criterion A (N=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD Severity</td>
<td>28.71 (7.23)</td>
<td>9.75 (3.86)</td>
<td>27.73 (9.80)</td>
</tr>
<tr>
<td>Arousal</td>
<td>9.50 (2.53)</td>
<td>3.25 (0.96)</td>
<td>9.55 (3.69)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>11.64 (4.63)</td>
<td>4.0 (2.0)</td>
<td>11.09 (3.51)</td>
</tr>
<tr>
<td>Re-experiencing</td>
<td>7.36 (2.50)</td>
<td>2.50 (1.29)</td>
<td>7.64 (3.08)</td>
</tr>
</tbody>
</table>
Bonferroni Tests for pairwise comparisons showed that mean severity scores were significantly higher for the ‘PTSD’ and ‘PTSD except criterion A’ groups than the ‘no diagnosis’ group (p=0.001 and 0.002 respectively). As hypothesised, there was no significant difference in means for overall severity or for any subscale between the ‘PTSD’ and ‘except criterion A’ groups (p=1.000 for all scales). In addition, of the 11 participants who did not meet criterion A, only one scored <15 (below severity cut-off for predicting diagnosis, Foa et al, 1998) with the other 10 scoring >15.

Section 3.5. Peri and posttraumatic cognitive and emotional processing: Relationship to PTSD severity

Criterion A1 (perceiving life in danger and physical injury): Relationship to PTSD:

Ten participants (34.5%) failed to meet criterion A1 for PTSD. Of the 19 who met criterion A1, 16 reported physical injury; and only 10 reported thinking that their life was in danger. Those who met criterion A1 were significantly more likely to have experienced intense fear (Chi-Square $\chi^2 = 13.997$, $p < 0.001$). There was no significant difference in PTSD severity between those who thought their life was in danger at the time and those who did not, $t (27) = -1.48$, $p = 0.15$.

Twenty participants recalled ‘some thoughts’ and nine reported recalling ‘no thoughts’ from the time of the assault. Participants rated level of distress associated with peritraumatic thoughts on a 5-point scale where 0 = No distress and 5 = extreme distress. Thirteen participants (44.8%) reported little or no distress due to feeling ‘emotionally numb’. Level of distress associated with peritraumatic cognitions was not significantly correlated with PTSD severity ($r = -0.12$, $p = 0.53$).
Peritraumatic Consciousness:
Participants were asked to rate how much of the assault they were conscious for: None, a little, half, most or all. Twenty-six participants reported some degree of conscious awareness during the assault and only 3 reported being totally unconscious. Consciousness during assault was not significantly correlated with PTSD severity, $r = 0.21$, $p = 0.27$.

Peritraumatic and posttraumatic emotional processing
To further explore the findings above, a more detailed analysis of emotional processing and its impact on PTSD severity was undertaken. Participants rated the emotions they experienced at the time of the trauma (peritraumatic), in the month after and in the last month. Participants rated each emotion on a five-point scale where 0=not experienced and 4=experienced very intensely. Five participants reported feeling totally ‘emotionally numb’ or were unconscious, at the time of the assault, and therefore rated zero for all peritraumatic emotions. Twenty-four participants reported feeling emotions at some point during the assault, though in many cases this was not intense.

DSM-IV Criterion A2: Fear, helplessness and horror (‘primary emotions’):
The intensity of ‘primary’ emotions reported at the time of the trauma (peritraumatically) and after the trauma are both illustrated in figure 6.
Peritraumatic fear: As hypothesised, mean intensity rating for peritraumatic fear was low (1.21) and 14 participants reported feeling no fear at the time of the assault. Ten participants (34.5%) reported 'extremely intense' peritraumatic fear. Intensity of peritraumatic fear was significantly negatively correlated with PTSD severity ($r = -0.40$, $p = 0.03$). Further comparison revealed PTSD was higher for those who reported no fear ($N = 14$, mean $= 29.50$, SD $= 10.39$), compared with those who reported 'very intense' fear (mean $= 19.20$, SD $= 10.06$), $t (17) = 2.043$, $p = 0.05$). Furthermore, those who reported low fear during the rape described significantly higher distress associated with intrusive memories post-assault ($r = -0.487$, $p = 0.007$).

Post-traumatic fear: There was a significant effect of time since assault on mean intensity rating for fear (Wilks’ Lambda $= 0.31$, $F (2, 27) = 29.66$, $p < 0.001$). Post-hoc pairwise comparisons with Bonferroni adjustment for multiple comparisons revealed that fear intensity increased significantly in the month after the assault ($p < 0.001$) and was significantly positively correlated with PTSD severity, $r = 0.55$, $p = 0.002$. This
supports the hypothesis that post-traumatic fear would be experienced as an evaluative emotion, but not as a primary emotion during the trauma.

**Peritraumatic helplessness:** As hypothesised, helplessness was the most commonly and intensely experienced criterion A2 emotion. Although 22 participants experienced peritraumatic helplessness of at least moderate intensity, and consequently met criterion A2 for PTSD, helplessness was not significantly correlated with PTSD severity, \( r = 0.16, p = 0.42 \). This could have been partially due to lack of variance in scores. However, even when participants who scored ‘not at all’ and ‘very intensely’ were compared, there was still no significant difference in PTSD severity (\( t (17) = 0.959, p = 0.349 \)).

**Post-traumatic helplessness:** There was a significant effect of time since assault on intensity of helplessness (Wilks’ Lambda = 0.35, \( F (2, 27) = 25.43, p < 0.001 \)). Post-hoc pairwise comparisons with Bonferroni adjustment for multiple comparisons revealed no significant difference in intensity of helplessness at the time of trauma and in association with intrusive memories in the month after the assault (\( p = 1.000 \)). Helplessness reduced significantly in the last month (\( p < 0.001 \)) and was not significantly correlated with PTSD severity (\( r = 0.282, p = 0.138 \)).

**Horror:** Mean intensity rating for peritraumatic horror was low (1.24, SD = 1.62) and was not significantly correlated with PTSD severity (\( r = -0.198, p = 0.304 \)). Posttraumatic horror ratings remained low in intensity.

The frequency and mean intensity of ‘primary’ (criterion A) emotions reported by participants are described in table 8.
Table 8: Primary emotions experienced at the time of trauma and post-traumatic emotions associated with intrusive memories (N = 29)

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Time-point</th>
<th>Frequency (N/29)</th>
<th>Mean (SD) Intensity</th>
<th>Median Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear</td>
<td>Peritraumatic</td>
<td>15</td>
<td>1.21 (1.50)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Month after assault</td>
<td>28</td>
<td>3.10 (1.20)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Last month</td>
<td>24</td>
<td>1.64 (1.22)</td>
<td>2</td>
</tr>
<tr>
<td>Helplessness</td>
<td>Peritraumatic</td>
<td>22</td>
<td>2.83 (1.61)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Month after assault</td>
<td>27</td>
<td>3.10 (1.23)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Last month</td>
<td>14</td>
<td>1.03 (1.43)</td>
<td>0</td>
</tr>
<tr>
<td>Horror</td>
<td>Peritraumatic</td>
<td>13</td>
<td>1.24 (1.62)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Month after assault</td>
<td>12</td>
<td>1.52 (1.88)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Last month</td>
<td>5</td>
<td>2.86 (1.09)</td>
<td>0</td>
</tr>
</tbody>
</table>

These results suggest that, as hypothesised, drug-rape survivors’ PTSD severity was not reduced by the absence of criterion A1 or criterion A2 emotions. Furthermore, they suggest that lower intensity of peritraumatic fear (emotional numbing) was associated with high PTSD severity and post-traumatic fear.

Secondary (evaluative) emotions: Guilt, shame and anger

It was hypothesised that drug-rape survivors would experience low levels of evaluative emotions at the time of the assault, but would experience high frequency and intensity evaluative emotions, particularly guilt and shame post-trauma. In concordance with recent literature (e.g. Grey et al, 2000), participants also identified a range of evaluative peri-traumatic emotions, including shame, guilt and anger. However, intensity and frequency were low. None were significantly correlated with PTSD severity, or negative cognitive appraisals (p>0.05 in all cases).
The intensity of peri and post-traumatic evaluative emotions are illustrated in figure 7, and the means and standard deviations shown in appendix 7.

Figure 7: Secondary, 'evaluative' (VAM) peri and posttraumatic emotions reported by participants

As hypothesised, significant increases in intensity of evaluative emotions were reported in the month after the assault, with a significant effect of time on guilt (Wilks’ Lambda = 0.76, F (2, 27) = 4.24, p = 0.025), anger (Wilks’ Lambda = 0.22, F (2, 27) = 48.91, p < 0.001) and shame (Wilks’ Lambda = 0.57, F (2, 27) = 10.13, p = 0.001).

However, although anger and shame were experienced at considerable intensity, no evaluative emotions were significantly correlated with PTSD severity (anger r = 0.26, p = 0.18, shame r = 0.15, p = 0.44, guilt r = 0.11, p = 0.56).
Section 3.6. Post-traumatic intrusive memories: Characteristics

It was predicted that drug-rape survivors would experience intrusive memories (including flashbacks) of the rape, either based on 'islands' of memory or of imagined 'worst case scenarios'. As hypothesised, drug-rape survivors were found to experience intrusive memories of similar sensory quality to those described by other trauma populations, which are described below.

Frequency of intrusive memories in the month following the assault: Frequency was rated on a 0-5 scale where 0 = never, 1 = Once or twice, 2 = Once or twice a week, 3 = Several times per week, 4 = Daily or almost, and 5 = More than once per day. The median rating was several times per week in the month following the assault, but reduced to once or twice per week by the time of the assessment.

Intrusive memories: Sensory form: Participants were asked to rate in which sensory form(s) they experienced intrusive memories after the assault. As shown in table 9, the categories included: Images, 'film-clips', bodily sensations, smells, sounds, emotions and thoughts. Visual images and film clips were most frequently reported, followed by bodily sensations and smells.

Table 9: Sensory modality of intrusive memories: Frequency of report

<table>
<thead>
<tr>
<th>Sensory modality</th>
<th>Number (Percentage)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Month after</td>
<td>Recent (last month)</td>
</tr>
<tr>
<td>Visual images</td>
<td>24 (82.76%)</td>
<td>21 (72.41%)</td>
</tr>
<tr>
<td>Film clips</td>
<td>24 (82.76%)</td>
<td>19 (65%)</td>
</tr>
<tr>
<td>Bodily sensations</td>
<td>22 (75.86%)</td>
<td>10 (34.48%)</td>
</tr>
<tr>
<td>Smells</td>
<td>11 (37.93%)</td>
<td>3 (10.34%)</td>
</tr>
<tr>
<td>Sounds</td>
<td>13 (44.83%)</td>
<td>7 (24.14%)</td>
</tr>
<tr>
<td>Verbal recollections/ thoughts</td>
<td>9 (31.03%)</td>
<td>23 (79.30%)</td>
</tr>
</tbody>
</table>
As table 10 shows, participants reported very vivid, uncontrollable, distressing intrusive memories with a high reliving quality in the month after the assault, comparable with other trauma populations using similar measures (e.g. van der Kolk and Fisler, 1995).

Table 10: Memory characteristics: Change over time

<table>
<thead>
<tr>
<th>Item:</th>
<th>Month after assault</th>
<th>Last month</th>
<th>Difference (df = 28)</th>
<th>t-test and p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory gaps (0-5) Higher score: &gt;amnesia</td>
<td>3.28 (0.96)</td>
<td>2.69 (0.97)</td>
<td>3.8, p = 0.001</td>
<td></td>
</tr>
<tr>
<td>Distress associated with intrusive memory (0-4)</td>
<td>3.21 (0.82)</td>
<td>1.83 (0.93)</td>
<td>7.89, p &lt; 0.001</td>
<td></td>
</tr>
<tr>
<td>Control over intrusive memory (0-5)</td>
<td>1.10 (1.32)</td>
<td>3.10 (1.47)</td>
<td>6.63, p &lt; 0.001</td>
<td></td>
</tr>
<tr>
<td>Vividness of intrusions (1-3)</td>
<td>2.14 (0.79)</td>
<td>1.76 (0.91)</td>
<td>2.17, p = 0.039</td>
<td></td>
</tr>
<tr>
<td>Reliving quality (0-5)</td>
<td>3.41 (1.30)</td>
<td>1.66 (1.29)</td>
<td>5.70, p &lt; 0.001</td>
<td></td>
</tr>
<tr>
<td>Perceived accuracy (1-10)</td>
<td>4.28 (2.52)</td>
<td>6.35 (2.27)</td>
<td>3.84, p = 0.001</td>
<td></td>
</tr>
<tr>
<td>Narrative (VAM) (1-10)</td>
<td>3.21 (0.96)</td>
<td>5.93 (1.83)</td>
<td>9.16, p &lt; 0.001</td>
<td></td>
</tr>
</tbody>
</table>

Participants reported that reliving, distress, and vividness characteristics were significantly reduced in the last month, with a corresponding significant increase in control over memories and accessibility of a verbal narrative of the trauma. However, even in the last month, participants reported a moderate level of distress associated with their memories. Perceived memory gaps were also reduced in recent weeks, suggesting that some memory reconstruction occurred. Furthermore, perceived accuracy also increased over time.

Consciousness at the time of trauma and intrusive memories: Of the three participants who reported being unconscious for the duration of the assault, one reported visual intrusive memories. Two reported bodily sensations, one reported thoughts and all
reported experiencing intense emotions. These participants reported experiencing intrusions less often than the other participants (average of once or twice in the last month) and reported having almost no memory of the assault.

Change in memories over time: Participants rated the extent to which they perceived their memories had changed in content over time (where 0 = no change and 5 = totally changed). The most frequent rating was 1, indicating little change, and 20 participants rated from 0-2. This suggests that participants believed their memories to have changed little over time. No significant difference was found between those who had psychological therapy and those who had not with regards to memory loss ratings (t (27) = 0.218, p = 0.829), memory change (t (27) = 0.197, p = 0.85) or perceived accuracy of memories (t (27) = 1.446, p = 0.16).

Coping with memory loss: Participants were asked how they coped with their memory gaps. Six reported ‘learning to accept them’, but 23 reported ‘imagining the worst’ and feeling ‘driven to go over and over the assault to try and fill in the gaps’. This included both mental rumination, and revisiting locations, or writing a diary account to try and reconstruct the memory. Participants rated the extent to which they ruminated over the assault on a 0-5 scale where 0 = not at all and 5 = very much so. The median score for rumination was 5 with 25 participants rating 4 or 5.

Participants were asked whether they had tried to validate their memories with other people. Table 11 shows that the majority of participants did try to reconstruct events by asking others about events prior to or after the assault. Very few chose not to do so.
Table 11: Number of participants who validated their memories with others

<table>
<thead>
<tr>
<th>Validation of memories</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, no one to check with</td>
<td>8</td>
<td>27.6</td>
</tr>
<tr>
<td>No, didn't ask</td>
<td>3</td>
<td>10.3</td>
</tr>
<tr>
<td>Yes</td>
<td>18</td>
<td>62.1</td>
</tr>
</tbody>
</table>

Perceived change in memory over time was not significantly related to whether participants reported validating their memories with others ($F(2, 26) = 2.80, p = 0.08$).

Perceived accuracy of intrusive memories: Participants were asked to rate (as a percentage) the extent to which they believed their intrusive memories were accurate for time, place, people, and events.

Table 12:

<table>
<thead>
<tr>
<th>Assault characteristics:</th>
<th>% Sure about timing</th>
<th>% Sure about place</th>
<th>% Sure about people</th>
<th>% Sure about events</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Mean</td>
<td>50.17</td>
<td>82.41</td>
<td>80.48</td>
<td>62.04</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>33.45</td>
<td>26.65</td>
<td>32.72</td>
<td>26.20</td>
</tr>
</tbody>
</table>

As table 12 demonstrates, participants were less sure about timing of events than for persons involved and places involved. A one-way ANOVA revealed no significant effect of checking memories with others on overall rating of accuracy of memories, $F(2, 26) = 0.15, p = 0.87$. However, as hypothesised, perceived accuracy of memories was significantly positively correlated with vividness of the intrusive memories ($r = 0.49, p = 0.007$), as has been reported in previous empirical memory research.
Intrusive memories: Comparison with van der Kolk and Fisler (1995):

Van der Kolk and Fisler (1995) used the TMI (from which this questionnaire was adapted) to retrospectively evaluate traumatic memories in 46 traumatised adults (30 CSA, 11 physical abuse/assault and 5 other). The results of the 2 studies are compared in table 13.

Drug-rape survivors reported comparable intrusive memory sensory phenomena. Both groups’ experienced visual images most frequently, followed in both populations by bodily sensations, with smells and sounds being less common for both groups. Intense affective experiences were more frequently reported for drug-rape survivors than for van der Kolk’s population. For both populations, the presence of a verbal narrative of the trauma or verbal thoughts was comparably lower nearer the time of trauma, and increased similarly for both populations over time.

Table 13: Comparison of Sensory quality of memories: % participants reporting each type

<table>
<thead>
<tr>
<th>Sensory modality</th>
<th>Drug Rape, Initially (most intense)</th>
<th>Van der Kolk et al, Most intense</th>
<th>Drug Rape Last month</th>
<th>Van der Kolk et al, Last month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual images</td>
<td>82.76</td>
<td>91</td>
<td>72.41</td>
<td>81</td>
</tr>
<tr>
<td>Film clips</td>
<td>82.76</td>
<td>91</td>
<td>65.00</td>
<td>81</td>
</tr>
<tr>
<td>Bodily sensations</td>
<td>75.86</td>
<td>70</td>
<td>34.48</td>
<td>36</td>
</tr>
<tr>
<td>Smells</td>
<td>37.93</td>
<td>77</td>
<td>10.34</td>
<td>28</td>
</tr>
<tr>
<td>Sounds</td>
<td>44.83</td>
<td>45</td>
<td>24.14</td>
<td>23</td>
</tr>
<tr>
<td>Affective</td>
<td>100</td>
<td>77</td>
<td>93.10</td>
<td>53</td>
</tr>
<tr>
<td>Thoughts</td>
<td>31.03</td>
<td>47</td>
<td>79.30</td>
<td>85</td>
</tr>
</tbody>
</table>

Overall, this comparison suggests that the quality of intrusive memories over time may be similar for drug-rape survivors and other populations of traumatised adults. However, drug rape survivors reported considerable amnesia for the rape.
Relationship of peritraumatic dissociation and PTSD with intrusive memory characteristics

Further exploration of the data (summarised in table 14) showed that dissociation was very significantly associated with both more intense reliving quality of memories (SAM) and distress associated with the memories. Both of these characteristics were also significantly associated with PTSD, as has been demonstrated in previous research (Ehlers and Clark, 2000).

Table 14:

<table>
<thead>
<tr>
<th></th>
<th>Reliving</th>
<th>Controllability</th>
<th>Distress</th>
<th>Vividness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dissociation</strong></td>
<td>Pearson correlation</td>
<td>0.48</td>
<td>-0.30</td>
<td>0.53</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.01</td>
<td>0.80</td>
<td>0.004</td>
<td>0.44</td>
</tr>
<tr>
<td><strong>PTSD</strong></td>
<td>Pearson correlation</td>
<td>0.50</td>
<td>-0.40</td>
<td>0.80</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.006</td>
<td>0.03</td>
<td>0.0001</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Section 3.7. Psychological processes mediating outcome

Peritraumatic Dissociation

(Peritraumatic Dissociative Experiences Questionnaire: PDEQ)

Peritraumatic dissociation was measured using the self-report PDEQ (N=29). Each item is rated on a 1-5 scale as follows: 1 = Not at all true, 2 = Slightly true, 3 = Somewhat true, 4 = Very true, and 5 = Extremely true. There are 10-items and the minimum score is 0 and the maximum score is 50. The mean score was 37.0 (SD=4.63) and the range of scores was 16-48. Participants scored highly across all items.
Peritraumatic dissociation and emotional processing:

Previous research has shown intense peritraumatic helplessness to be associated with higher dissociation (Brewin et al, 1998). As hypothesised, helplessness was rated highly by drug-rape participants. However, PDEQ score was not significantly correlated with peritraumatic helplessness ($r = 0.005, p = 0.979$), fear ($r = -0.213, p = 0.277$) or horror ($r = -0.074, p = 0.709$). PDEQ was also not significantly correlated with post-traumatic emotional intensity ($p>0.05$).

Comparison with published PDEQ scores

The PDEQ scores for the drug-rape participants were compared with raw PDEQ data for non-drug sexual assault survivors (Griffin et al, 1997). In order to do this, the data was recoded from a 1-5 into a 0-4 scale as used by Griffin et al. In addition, Griffin et al (1997) used only 7 items of the PDEQ, rather than all 10 items so the corresponding 7 items were compared. The mean score for these 7 items correlated very highly with the 10-item scale ($r = 0.95, p < 0.001$).

Table 15: Drug rape and non-drug rape PDEQ Scores

<table>
<thead>
<tr>
<th>Group (Drug or non-drug)</th>
<th>PDEQ Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Rape</td>
<td>19.00 (4.74)</td>
</tr>
<tr>
<td>Non-drug sexual assault</td>
<td>10.42 (5.47)</td>
</tr>
<tr>
<td>t-value (p-value)</td>
<td>t (155) = 7.8, $p &lt; 0.001$</td>
</tr>
</tbody>
</table>

Mean PDEQ score for ‘non-drug’ rape survivors was significantly lower than for the drug-rape group (table 15). This supports the hypothesis that drug-rape survivors would report higher levels of peritraumatic dissociation than non-drug trauma populations. It also implies that the psychopharmacological effects of benzodiazepines and GHB may offer a model for a drug-induced dissociative state. The PDEQ score distributions for
drug-rape survivors (N=29) and Griffin et al's sexual assault participants (N=137) are illustrated in the figure 8.

**Figure 8:**

**Bar chart of PDEQ score distribution (by %) compared with Griffin et al (1997)**

Comparison of PDEQ scores for individual items was made between the two groups. The mean item and total PDEQ scores are illustrated in figure 9.

T-test analysis showed that drug-rape PDEQ scores were significantly higher than the non-drug group for all items (p<0.01 in all cases) except item 3 (time changes) for which there was no significant difference (t (155) = 0.922, p = 0.358). Interestingly, item 5 (‘Spectator’) was significantly higher for drug-rape survivors (t (155) = 2.885, p = 0.004). This suggests that depersonalisation occurred to a greater extent as well as derealisation (spacing out, memory gaps, confusion).
Post-traumatic appraisals: Post-Traumatic Cognitions Inventory (PTCI)

The Post-Traumatic Cognitions Inventory is a 33-item scale that yields a total maximum score of 231. A higher score represents a higher degree of negative appraisals and cognitions. Each item is rated on a 1-7 Likert scale where 1 = totally disagree, 4 = neutral and 7 = agree totally. The questionnaire also gives scores for the following subscales:

4. Negative cognitions about self (N=21, maximum score = 147)
5. Negative cognitions about the world (N=7, maximum score = 49)
6. Self-blame (N=5, maximum score = 35)

The mean total and subscale scores are shown in table 16.
Table 16: PTCI scores for drug-rape survivors

<table>
<thead>
<tr>
<th>PTCI Scale</th>
<th>Mean total (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>133.22 (36.95)</td>
</tr>
<tr>
<td>Self-blame</td>
<td>19.78 (7.55)</td>
</tr>
<tr>
<td>Negative cognitions re: self</td>
<td>77.89 (8.51)</td>
</tr>
<tr>
<td>Negative cognitions re: world</td>
<td>35.56 (8.51)</td>
</tr>
</tbody>
</table>

Posttraumatic appraisals and emotional processing: fear

It was hypothesised that negative posttraumatic cognitive appraisals would be associated with intense posttraumatic affect. PTCI score shared a similar relationship with fear as PTSD severity. It was negatively associated with fear at the time of the assault \( r = -0.466, p = 0.012 \), but positively correlated with fear post-trauma \( r = 0.375, p = 0.04 \). Furthermore, negative appraisals were positively correlated with the level of distress associated with intrusive memories \( r = 0.373, p = 0.05 \). In summary, impaired fear response during the trauma was associated with higher negative appraisals, distress, fear and PTSD post-trauma.

Of the evaluative emotions, guilt was very significantly associated with the extent of negative appraisals \( r = 0.501, p = 0.008 \), but was not significantly related to PTSD severity. Anger and shame were not significantly associated with PTCI score \( p > 0.05 \), but this could reflect the questions asked in the PTCI, rather than the lack of a relationship.

Comparison with published PTCI scores

Foa et al (1999) have published the only psychometric data for the PTCI. They investigated PTCI scores for individuals who had experienced a Criterion A trauma but did not have PTSD (N=185), those with PTSD (N=170) and those who had not experienced any trauma (N=162). This included a range of traumas, including sexual
assault (N=25) and violent assault. Table 17 shows the median scores for individual items on the PTCI for drug-rape survivors as compared with published norms. The data is split into two groups:

1. Those who scored <15 on the PTDS (predictive of PTSD diagnosis)
2. Those who scored ≥15

Table 17:

Median PTCI scores by PTSD diagnosis: Comparison with Foa et al (1999)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Trauma</td>
<td>Trauma, no PTSD</td>
<td>No PTSD (PDS&lt;15)</td>
<td>PTSD</td>
<td>PTSD</td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>1.08 (0.76)</td>
<td>1.05 (0.63)</td>
<td>1.43 (1.27)</td>
<td>3.6 (1.48)</td>
<td>3.86 (1.06)</td>
</tr>
<tr>
<td>World</td>
<td>2.07 (1.43)</td>
<td>1.43 (2.43)</td>
<td>3.71 (1.67)</td>
<td>5.0 (1.25)</td>
<td>5.29 (1.04)</td>
</tr>
<tr>
<td>Blame</td>
<td>1.00 (1.45)</td>
<td>1.45 (1.00)</td>
<td>2.20 (0.90)</td>
<td>3.2 (1.74)</td>
<td>4.20 (1.49)</td>
</tr>
<tr>
<td>Total</td>
<td>45.5 (34.74)</td>
<td>49.0 (23.52)</td>
<td>74.50 (37.33)</td>
<td>133.0 (44.17)</td>
<td>138.0 (29.2)</td>
</tr>
</tbody>
</table>

Drug-rape survivors who scored >15 for PTSD severity on the Post-Traumatic Diagnostic Scale showed comparable, but slightly higher, scores on the PTCI to Foa et al’s ‘non drug-rape’ sample of traumatised individuals. This data suggests that survivors of drug-rape show higher scores for negative appraisals than other non-PTSD populations and show a similar severity and pattern of negative post-traumatic appraisals to other PTSD populations. This was with the exception that negative cognitions about the world (e.g. safety) were somewhat higher for the drug-rape population.
Pre-trauma mental health status and post-trauma counselling:

Relationship with PTSD, PTCI and PDEQ scores

Pre-assault mental health problems: As anticipated, PTSD severity was significantly higher for participants who reported having experienced mental health difficulties (depression and anxiety) prior to the assault (table 18), but there was no difference for peritraumatic dissociation, depression, anxiety or post-traumatic appraisals.

Table 18:

Relationship between Mental Health and PTSD, HADS, PDEQ, and PTCI

<table>
<thead>
<tr>
<th></th>
<th>No prior mental health problems (N=9)</th>
<th>Prior mental health problems (N=20)</th>
<th>Statistical analysis (t-test)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>t.</td>
</tr>
<tr>
<td>PTSD</td>
<td>23.20 (10.37)</td>
<td>31.33 (7.22)</td>
<td>2.136</td>
</tr>
<tr>
<td>PTCI</td>
<td>127.53 (37.70)</td>
<td>146.75 (33.40)</td>
<td>1.248</td>
</tr>
<tr>
<td>PDEQ</td>
<td>36.16 (4.62)</td>
<td>38.77 (4.35)</td>
<td>1.426</td>
</tr>
<tr>
<td>HADS-A</td>
<td>19.94 (3.52)</td>
<td>21.0 (4.55)</td>
<td>0.673</td>
</tr>
<tr>
<td>HADS-D</td>
<td>14.63 (3.42)</td>
<td>17.44 (3.84)</td>
<td>1.955</td>
</tr>
</tbody>
</table>

Psychological therapy/ counselling: Frequency (none, weekly, fortnightly, monthly, occasional) of counselling/ psychological therapy was not significantly related to severity of PTSD symptoms ($r = -0.082$, $p = 0.674$). In addition, there was no significant difference in mean severity score in relation to whether therapy was ongoing, $t (27) = 0.131, p = 0.897$. This was also the case for PTCI score and frequency of counselling ($r = -0.155, p = 0.440$) and whether counselling is ongoing ($t (25) = 0.999, p = 0.327$).
Section 8. Predicting PTSD severity: Within group analysis

PTSD severity:
As outlined in the hypotheses, it was predicted that a number of independent variables (namely, post-traumatic negative appraisals and peritraumatic dissociation) would independently predict the severity of PTSD symptomatology. Preliminary correlational analyses indicated that a number of variables were not significantly related to the PTDS Severity scale or subscales, and were therefore not controlled for in further regression analyses (see appendix 11).

As the PTDS subscales were all highly correlated (see table 19) with one another, and with the PTDS total severity score, the total score was used in the multiple regression analyses.

Table 19: Correlations between PTDS Severity Subscales and Total Score

<table>
<thead>
<tr>
<th>Severity:</th>
<th>PTSD Severity</th>
<th>Re-Experiencing</th>
<th>Avoidance</th>
<th>Arousal</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td><em>Pearson Correlation</em> 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) .</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-experiencing</td>
<td><em>Pearson Correlation</em> 0.78 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) &lt;0.001 .</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td><em>Pearson Correlation</em> 0.86 0.50 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) &lt;0.001 0.005 .</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arousal</td>
<td><em>Pearson Correlation</em> 0.89 0.67 0.71 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) &lt;0.001 &lt;0.001 &lt;0.001 .</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A series of multivariate analyses were completed using the PTDS Severity Score as the outcome variable. This was to assess the unique contributions of peritraumatic dissociation and post-traumatic appraisals to the variance in PTSD severity, independent of time since assault and mental health history. The regression analyses, and the unique contributions of each independent variable ($sr^2$'s) are shown in tables 20 and 22-24.
History of mental health problems and time since assault: Relationship to PTSD severity

As shown in table 20, time since assault and mental health history were both significantly associated with PTSD severity (accounting for 15% and 34% of the variance respectively). These variables were therefore included with peritraumatic dissociation (PDEQ) and negative posttraumatic appraisals (PTCI) as independent variables in the multivariate regression analysis on PTSD severity. This enabled the contributions of peritraumatic dissociation and appraisals to the variance in PTSD severity, independent of time since assault and mental health history, to be determined.

As tables 22-24 illustrate, time since assault, but not mental health history, continued to predict a significant proportion of the variance (17%) in PTSD severity independently of PTCI and PDEQ score.

Table 20: Proportion of variance in PTSD severity predicted individually by dissociation (PDEQ), appraisals (PTCI), mental health history, and time since assault

<table>
<thead>
<tr>
<th>IV's predicting severity</th>
<th>Beta</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Significance of change (F and p-values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health Pre-Assault alone</td>
<td>-0.38</td>
<td>0.15</td>
<td>0.11</td>
<td>F(1,27)=4.56, p=0.042</td>
</tr>
<tr>
<td>Time since assault alone</td>
<td>-0.59</td>
<td>0.34</td>
<td>0.32</td>
<td>F(1,26)=13.58, p=0.001</td>
</tr>
<tr>
<td>PTCI alone</td>
<td>0.51</td>
<td>0.26</td>
<td>0.23</td>
<td>F(1,25)=8.92, p=0.006</td>
</tr>
<tr>
<td>PDEQ alone</td>
<td>0.50</td>
<td>0.25</td>
<td>0.22</td>
<td>F(1,26)=8.55 p=0.007</td>
</tr>
</tbody>
</table>

Relationship between perceived amnesia ('memory gaps') and PTSD severity

Perceived extent of amnesia in recent weeks was not significantly correlated with PTSD severity (r = 0.058, p = 0.767), and neither was completeness of verbal narrative (r = 0.249, p = 0.192), or consciousness at the time of the assault (r = 0.21, p = 0.27).

Perceived severity of amnesia was also not significantly correlated with post-traumatic appraisals (PTCI: r = 0.11, p = 0.59) or peritraumatic dissociation (PDEQ: r = 0.09, p = 0.64). These variables were therefore not included in the regression analyses.
Dissociation (PDEQ) and cognitive appraisals (PTCI): Relationship to PTSD

Posttraumatic negative appraisals (PTCI) will be positively associated with PTSD

It was hypothesised that posttraumatic appraisals, as assessed by the PTCI, would independently predict a significant proportion of the variance in PTSD symptom severity for drug-rape survivors. A correlational analysis was conducted for the PTCI scales. This revealed that all items were moderately-highly inter-correlated (see table 21 for a summary). For this reason, the total PTCI score was used in the regression analyses.

<table>
<thead>
<tr>
<th>PTCI Subscale:</th>
<th>Pearson’s r</th>
<th>Sum of Self Blame</th>
<th>Sum of World Negative Cognitions</th>
<th>Sum of Self Negative Cognitions</th>
<th>Total PTCI Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self blame</td>
<td>Pearson Correlation</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative cognitions about world</td>
<td>Pearson Correlation</td>
<td>0.38</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative cognitions about self</td>
<td>Pearson Correlation</td>
<td>0.48</td>
<td>0.52</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.01</td>
<td>0.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of PTCI Sub-Scales</td>
<td>Pearson Correlation</td>
<td>0.65</td>
<td>0.70</td>
<td>0.96</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

Posttraumatic negative appraisals (PTCI) accounted for a significant proportion (23%) of the variance in PTSD severity (see table 20). Although, as hypothesised, PTCI score was positively associated with PTSD severity, negative posttraumatic appraisals predicted the variance in PTSD severity at below significance when the independent effects of time and mental health history on PTSD were partialled out, predicting only 9.4% of the variance. The regression analysis is summarised in table 22.
Table 22: Regression analysis on PTSD severity: Cognitive appraisals (PTCI), time since assault and mental health history

<table>
<thead>
<tr>
<th>IV's predicting severity</th>
<th>Beta</th>
<th>t-statistic</th>
<th>F-statistic</th>
<th>p-value</th>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>sr^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>--</td>
<td>--</td>
<td>F(3,22) = 6.63</td>
<td>0.002</td>
<td>0.48</td>
<td>0.40</td>
<td>--</td>
</tr>
<tr>
<td>Mental Health Pre-assault</td>
<td>-0.17</td>
<td>1.07</td>
<td>--</td>
<td>0.30</td>
<td>--</td>
<td>--</td>
<td>0.029</td>
</tr>
<tr>
<td>Time since assault</td>
<td>-0.41</td>
<td>2.43</td>
<td>--</td>
<td>0.24</td>
<td>--</td>
<td>--</td>
<td>0.141</td>
</tr>
<tr>
<td>PTCI</td>
<td>0.35</td>
<td>1.98</td>
<td>--</td>
<td>0.60</td>
<td>--</td>
<td>--</td>
<td>0.094</td>
</tr>
</tbody>
</table>

Peritraumatic dissociation (PDEQ) will be positively associated with PTSD severity

As hypothesised, dissociation was positively associated with PTSD severity. Table 20 illustrates that, as the only independent variable, peritraumatic dissociation accounted for 25% of the variance in PTSD severity. PDEQ score also predicted a significant proportion of the variance (18%) in PTSD severity, independent of time since assault and mental health history. The regression analysis is summarised in table 23.

Table 23: Regression analysis on PTSD severity: Dissociation (PDEQ), time since assault and mental health history

<table>
<thead>
<tr>
<th>IV's predicting severity</th>
<th>Beta</th>
<th>t-statistic</th>
<th>F-statistic</th>
<th>p-value</th>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>sr^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>--</td>
<td>--</td>
<td>F(3,23)= 11.03</td>
<td>&lt;0.01</td>
<td>0.59</td>
<td>0.54</td>
<td>--</td>
</tr>
<tr>
<td>Mental Health Pre-assault</td>
<td>-0.14</td>
<td>0.98</td>
<td>--</td>
<td>0.34</td>
<td>--</td>
<td>--</td>
<td>0.02</td>
</tr>
<tr>
<td>Time since assault</td>
<td>-0.56</td>
<td>4.09</td>
<td>--</td>
<td>&lt;0.001</td>
<td>--</td>
<td>--</td>
<td>0.30</td>
</tr>
<tr>
<td>PDEQ</td>
<td>0.44</td>
<td>3.15</td>
<td>--</td>
<td>0.004</td>
<td>--</td>
<td>--</td>
<td>0.18</td>
</tr>
</tbody>
</table>
Posttraumatic appraisals and dissociation: Relationship with PTSD severity

It was hypothesised that both dissociation (PDEQ) and posttraumatic appraisals (PTCI) would account for a significant proportion of the variance in PTSD severity, independently of each other. The independent variables posttraumatic appraisals (PTCI) and peritraumatic dissociation (PDEQ) were not significantly correlated ($r = 0.107$, $p = 0.595$). To test this hypothesis further, all independent variables were entered together into a multiple regression analysis to assess their independent associations with PTSD severity ($sr^2$s). The results of the regression are summarised in table 24.

Table 24: Regression analysis on PTSD severity, with all independent variables entered (dissociation (PDEQ), cognitive appraisals (PTCI), time since assault and mental health history)

<table>
<thead>
<tr>
<th>IVs predicting severity</th>
<th>Beta</th>
<th>t-statistic</th>
<th>F-statistic</th>
<th>p-value</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>$sr^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (total)</td>
<td>--</td>
<td>--</td>
<td>$F(4,22) = 9.32$</td>
<td>0.0002</td>
<td>0.64</td>
<td>0.57</td>
<td>--</td>
</tr>
<tr>
<td>Mental Health Pre-assault</td>
<td>-0.092</td>
<td>0.67</td>
<td>--</td>
<td>0.51</td>
<td>--</td>
<td>--</td>
<td>0.008</td>
</tr>
<tr>
<td>Time since assault</td>
<td>-0.45</td>
<td>3.17</td>
<td>--</td>
<td>0.005</td>
<td>--</td>
<td>--</td>
<td>0.17</td>
</tr>
<tr>
<td>PTCI</td>
<td>0.29</td>
<td>1.94</td>
<td>--</td>
<td>0.066</td>
<td>--</td>
<td>--</td>
<td>0.065</td>
</tr>
<tr>
<td>PDEQ</td>
<td>0.42</td>
<td>3.10</td>
<td>--</td>
<td>0.005</td>
<td>--</td>
<td>--</td>
<td>0.17</td>
</tr>
</tbody>
</table>

As hypothesised, peritraumatic dissociation (PDEQ) independently predicted a significant proportion of the variance in PTSD severity (17%) when appraisals (PTCI) were included in the regression analysis. However, the proportion of the variance in PTSD independently accounted for by negative posttraumatic appraisals (PTCI) reduced to 6.5%, which was not statistically significant. It is possible that the below significance
association of posttraumatic appraisals with PTSD severity is the result of small sample size and low statistical power to detect a small or medium effect size (i.e. due to type II error).

The multiple regression analysis on PTSD severity with all predictor variables entered is summarised in figure 10 below.

**Figure 10: Summary of the relationship of negative appraisals and dissociation with PTSD severity**
Distress associated with intrusive memories: Relationship to PTCI, PDEQ and PTSD:

Previous research has demonstrated that posttraumatic appraisals and dissociation maintain and exacerbate PTSD through an increase in distress specifically associated with intrusive memories. Level of distress associated with flashbacks was significantly correlated with both of the predictor variables, PTCI ($r = 0.37$, $p = 0.05$) and PDEQ ($r = 0.53$, $p = 0.004$), and also with PTSD severity ($r = 0.80$, $p < 0.0001$). It may be that, as found in previous research, the increase in PTSD severity associated with negative appraisals and dissociation is mediated through an increase in distress associated with flashbacks and recollections. The increased distress associated with intrusions might be mediated by the higher ‘reliving’ shown to be associated with dissociation in this study, and impaired fear response and higher posttraumatic fear associated with negative appraisals. However, given the sample size, it was beyond the scope of this study to investigate this using a multivariate analysis.
Section 9: SUMMARY OF RESULTS

Posttraumatic Stress Disorder

Over 70% of participants reported moderate-severe PTSD symptomatology and 48% met all PTSD diagnostic criteria. Eighty-two percent of participants reported life functioning impairment of a severity that met diagnostic criterion for PTSD. However, PTSD severity was not significantly related to use of (past or current) counselling. Seventy-nine percent of participants reported imagining worst-case scenarios in the context of their memory loss. However perceived extent of amnesia or consciousness during the assault were not significantly associated with PTSD severity.

Peritraumatic processing and PTSD: Effects of drugs

Participants reported high levels of mental confusion and helplessness, but very low levels of fear and evaluative emotions during the assault. Sixty-five percent of participants reported no perceived life threat, and 48.8% reported no peritraumatic cognitions or distress. As a result, 34.5% did not meet either criterion A1 or A2 for PTSD. However, an important finding was that there was no significant difference in PTSD severity (intrusions, arousal and avoidance) between those who met criterion A1 and/ or A2 and those who did not. In addition, reduced fear during rape was associated with higher negative appraisals, fear, PTSD and distress associated with intrusions.

Selective impairment of explicit (autobiographical) but not implicit memory

As anticipated, participants reported extensive anterograde amnesia for the rape. Reported memory loss was not significantly related to alcohol use, counselling, or talking events through with others. Although memory gaps were perceived to have reduced over time, they remained high. Even with extensive explicit memory loss, all participants reported frequent, distressing intrusive memories of the rape, characterised
by uncontrollability (involuntary triggering), reliving and vividness. Visual intrusions were most commonly reported, and the memories were comparable to ‘non-drug’ trauma populations. The distress associated with these memories was significantly associated with PTSD, and extent of both negative appraisals and dissociation.

**Negative posttraumatic appraisals and PTSD**

The extent of negative posttraumatic appraisals about self, world and self-blame as rated on the PTCI was comparable with other PTSD populations. Negative appraisals were significantly correlated with PTSD severity, but when time since assault was controlled, this relationship fell below significance. A number of negative appraisals not assessed by the PTCI were also identified during the interviews. Participants reported extensive negative appraisals regarding memory loss, and their emotional, cognitive and behavioural responses during the assault.

**Peritraumatic dissociation and PTSD**

Peritraumatic dissociation was significantly higher across all PDEQ items for drug-rape survivors than ‘non-drug’ rape survivors. As hypothesised, dissociation score significantly predicted PTSD severity when time since assault was controlled. Dissociation scores were not significantly associated with extent of amnesia, or peritraumatic helplessness or fear. Furthermore, the extent of ‘reliving’ quality of intrusive memories was significantly correlated with extent of peritraumatic dissociation and with PTSD severity.

**Depression and Anxiety**

In addition to PTSD, 90% of participants reported moderate to severe anxiety and 69% reported moderate to severe depression as assessed by the HADS.
Chapter 4: DISCUSSION

"I feel as though my mind was raped as well as my body" – A survivor of drug-rape

4.1. Aims

This research aimed to investigate the psychological consequences of drug-rape. The main outcome variable was posttraumatic stress disorder, as rape has been shown in longitudinal research to elicit particularly high rates of PTSD (Rothbaum et al, 1992). In this discussion, assault characteristics and prevalence findings regarding PTSD, depression and anxiety will be discussed first. Following this, the mediating impact of the drugs (benzodiazepines, alcohol and GHB) on PTSD symptomatology will be considered in light of the following:

- Emotional processing during the assault
- Posttraumatic appraisals and attributions about the rape and its sequelae
- Peritraumatic dissociation
- The impact of the drugs on explicit and implicit memory

Following this, the results will be considered with relevance to current cognitive models of persistent PTSD (Ehlers and Clark, 2000). Finally, methodological strengths and shortcomings of this research, and the implications for clinical practice and future research will be presented.

4.2. Characteristics of drug-rape reported by survivors

As illustrated by the case studies (Appendix 6), perpetrators of this type of assault reported by participants included partners, work colleagues and strangers. In addition, participants reported the assaults having occurred in a wide range of circumstances, e.g. clubs, parties, and work functions. The broad age range for participants in this study is
consistent with reports that drug-rape is not limited to young women, but affects all age groups. The mean age of 34 in this study is also comparable to statistics from the Drug Rape Trust (Sturman, 2001), which shows drug-rape to be more prevalent amongst (or possibly more commonly reported by) professional women in their mid-thirties. It is also of interest that the women who participated in this study came from a wide range of occupational backgrounds, from students to lawyers and professionals. This suggests that there is no “type” of woman who is likely to be the victim of a drug-rape, but rather that it occurs across all social and occupational groups, and ages.

Participants independently reported a similar pattern of drug-effects, including sedation, muscle relaxant effects, confusion, loss of consciousness, reduced anxiety and fear during the assault, and anterograde amnesia for the rape. For example, participants reported “feeling numb”, being “robbed of my emotions”, “blackened out”, “paralysed”, “wobbly”, “sleepy” and “too confused to feel distressed”. These effects are consistent with those of benzodiazepines and GHB. As would be expected, no retrograde amnesia was reported for events prior to the drugging, and memory function recovered fully post-assault. Some survivors also reported believing that they had been rendered unconscious during the assault, only to receive third party reports that they were awake and interacting with others. This is consistent with the known cognitive effects of the drugs: impaired encoding and consolidation of new autobiographical memory alongside intact attentional and short-term working memory (Curran, 1991). In light of this, self-reports of loss of consciousness cannot be considered reliable.

The variation in reported severity of drug-effects on consciousness, affect, sedation and memory loss reflects differences in factors such as type of drug, metabolism, time of administration and dosage (see introduction sections 1.8 and 1.9 for a review). Both pharmacological properties and person characteristics influence the effects of drugs.
4.3. Hypothesis 1: Severity of PTSD symptoms following drug-rape

The results suggest that, despite extensive explicit memory loss, over 70% of participants experienced persistent moderate to severe PTSD symptomatology (arousal, re-experiencing, and avoidance). Forty-eight percent of participants met all DSM-IV diagnostic criteria (A-F) for PTSD, with 83% scoring above severity cut-off for diagnosis (≥15 on PTDS questionnaire). This prevalence and severity of PTSD is comparable to other rape populations (Foa et al, 1999). For example, Rothbaum et al (1992) found that 47% of rape victims continued to experience PTSD at 9-months post-assault. All participants also reported considerable impairment of life functioning as a consequence of drug-rape, including sexual and relationship problems, and this accords with previous research (Steketee and Foa, 1987; Resick, 1990; Ellis, Atkeson and Calhoun 1981). The severity of PTSD symptoms (intrusions, arousal and avoidance) was not significantly related to the reports of the extent of amnesia, or perceived loss of consciousness during the assault.

As Weaver et al (1998) comment, “family and friends may minimise the experience (e.g. “well, you were raped but it's not that bad because at least you can't remember it”)”. The results of this research therefore suggest that, whilst others may view the memory loss as potentially protective, this is actually not the case, as extent of memory loss or loss of consciousness was not associated with less severe PTSD symptomatology.

In addition to PTSD, 90% of participants reported moderate-severe anxiety and 69% reported moderate-severe depression, both of which are known long-term consequences of rape (Steketee and Foa, 1987).
4.4. Hypothesis 2: Impaired emotional and cognitive processing during the rape

It was hypothesised that the anxiolytic, amnestic and sedative effects of the drugs would significantly impair cognitive and emotional processing, leading to confusion and low levels of 'criterion A emotions', particularly fear, during the assault. This hypothesis was supported by the results, which are discussed below, in relation to both fear and helplessness.

Peritraumatic helplessness and PTSD

As anticipated, perceived helplessness at the time of the trauma was high. This may reflect known effects of these drugs, including mental confusion, disinhibition of behaviour, muscle relaxation and sedation. GBH, in particular, has powerful muscle relaxant effects, which could render a victim completely physically incapacitated whilst they remain conscious. Although rated as high during the assaults, helplessness was not significantly associated with PTSD severity, a finding that differs from previous research with 'non-drug' trauma victims, which has demonstrated that helplessness and uncontrollability are powerful predictors of PTSD (Foa et al, 1989; Ehlers and Clark, 2000). Reynolds and Brewin (1999) found that, whilst fear was associated with intrusive memories in both depressed and PTSD populations, helplessness was uniquely associated with PTSD symptomatology. In a retrospective analysis of emotional responses during trauma (Criterion A2: N = 85), Roemer et al (1998), also found helplessness to significantly predict arousal, avoidance and re-experiencing symptoms of PTSD.

There are alternative explanations as to why peritraumatic helplessness, although rated highly by participants, was not predictive of PTSD severity in this research. Firstly, ratings of peritraumatic helplessness were retrospective, and may therefore have been subject to recall bias, particularly given the extent of amnesia reported. Also,
participants may have perceived themselves as having felt extreme helplessness during the rape as a result of post-hoc appraisals, when this was not truly the case. Alternatively, the effects of the drugs on cognitive and affective processing may have mediated a different relationship between peritraumatic affect and subsequent PTSD to other trauma populations.

Peritraumatic fear and PTSD
The majority of participants also reported experiencing extremely low levels of fear during the rape, with 48% reporting no fear. This important finding suggests that covertly administered drugs significantly reduce fear, and are anxiolytic, even in situation as extreme and traumatic as rape.

A third of participants (35%) did not meet DSM-IV criterion A1 and, notably, 65.5% reported that they did not fear for their lives during the rape. Perceived life threat or physical injury at the time of trauma is currently conceptualised as a DSM-IV criteria for PTSD diagnosis (criterion A1). As a result, a high proportion of survivors did not fulfil diagnostic criteria for PTSD. Survivors’ comments, including, “not being able to think or feel anything at all, I just felt overwhelmed and confused” and being “too confused to be distressed” illustrate the moderating effects of the drugs on cognitive processing during rape. Ehlers and Clark (2000) use the term “data-driven processing” to refer to such low levels of semantic or conceptual processing during trauma. The low reports of perceived life threat contrast sharply with other, ‘non-drug’ rape populations, where reported threat to integrity is extremely high (e.g. Rothbaum et al, 1992).

5 Perceived threat to life/ physical injury
Overall, 34.5% of participants failed to meet both DSM-IV criterion A1 and A2, and could not fulfil the diagnostic criteria for PTSD. Importantly, no significant difference in PTSD severity (intrusions, arousal and avoidance) was identified between those participants who did or did not meet DSM-IV criterion A1 and/or A2, with both subgroups reporting moderate-severe PTSD symptomatology. This pattern of results indicates that experiencing intense primary (criterion A) emotions during the trauma and/or perceived life threat at the time was not essential for the subsequent development of PTSD. This is an interesting finding, given that current cognitive conceptualisations of PTSD (e.g. Dual Representation Theory, Brewin et al, 1996; DSM-IV, APA, 1994) propose the experiencing of ‘primary emotions’ to underpin the development of SAM and PTSD re-experiencing symptoms. Roemer et al (1998: 128) highlight the lack of theoretical and empirical validity of current DSM-IV criteria for PTSD: “given that the three emotions included in DSM-IV were not empirically derived, an investigation into the role a range of emotional reactions play in the development of PTSD is indicated [including numbing]”.

Post-hoc exploration of the data revealed that peritraumatic fear, although low for the majority of participants, showed a significant negative relationship with PTSD. This result also differs from much of the existing empirical research with survivors of trauma. For example, in a longitudinal study of victims of violent crime (N = 138), Brewin et al (2000) found that intense fear was significantly, and positively, associated with PTSD severity. Although much empirical research has found intense peritraumatic affect to predict PTSD severity, a growing body of empirical literature has shown that ‘emotional numbing’ (e.g. significantly reduced fear) during trauma also predicts PTSD, as found for drug-rape survivors. For example, Roemer et al (1998) found, in a sample of college

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6 Intense fear, helplessness or horror experienced during the trauma
7 Situationally accessible memory
students, that emotional numbing (rated on a 9-point Likert scale) was predictive of PTSD severity in a retrospective study, and notes that this might represent the effects of peritraumatic dissociation. As found by Roemer et al (1998), the results of the current research suggest that a lower *fear* response during drug-rape might *exacerbate*, rather than reduce, PTSD symptomatology.

Brewin et al (2000) also note that alternative psychological or biological processes could facilitate the development of PTSD in the absence of intense peritraumatic affect. In their longitudinal study of peritraumatic emotions and PTSD in victims of violent crime, a small proportion of participants did not report intense affect yet had PTSD of comparable severity. These participants reported maximum posttraumatic shame and anger scores, suggesting that *posttraumatic* appraisals may have mediated PTSD symptomatology in the absence of peritraumatic affect. The mediating role of different negative appraisals reported by drug-rape survivors in PTSD symptomatology is discussed below.

**4.5. Hypothesis 3: Negative cognitive appraisals as predictors of PTSD**

As hypothesized, participants reported significant negative posttraumatic appraisals of comparable severity to other PTSD populations (e.g. Foa et al, 1999). Negative appraisals included negative attributions regarding trust and safety, misinterpretation of PTSD symptoms, memory loss, coping since the assault, and self-blame regarding the assault. For example, one survivor said, "*I should have watched my drink more closely*" (an example of self-blame), and another commented, "*If I can’t remember who did this to me...how can I ever trust another man again*" (trust). The comment of one survivor that "*I feel as though my mind was raped as well as my body*" highlights the loss of control and power associated with drug-rape. These appraisals are consistent with
McCann et al’s (1988) proposal that 5 major schematic themes are disrupted by trauma, including power, safety, trust, self-esteem, and intimacy.

Drug rape survivors reported low levels of negative *peritraumatic* cognitions (e.g. regarding life-threat). Empirical research has demonstrated negative appraisals during trauma to be associated with “emotional hotspots” (intense ‘primary’ or ‘evaluative’ affect), which are conceptualised as being encoded within situationally accessible memory, and resulting in more intense affect and re-experiencing symptoms of PTSD (e.g. Ehlers and Clark, 2000; Grey, Holmes and Brewin, in press). However, no participant described negative cognitions during the assault associated with intense emotional hotspots. In addition, 48.8% reported little or no distress associated with their cognitions during the rape. This might reflect drug-induced mental confusion and impaired conceptual processing during the rape. Such confusion and disorientation have been shown to predict up to 40% of the variance in PTSD symptoms following rape (Resick et al, 1990, cited in Resick, 1993).

**Relationship between negative posttraumatic appraisals (PTCI) and PTSD**

Controlling for time since assault, the relationship between negative cognitions (PTCI: self-blame, self and world) with PTSD symptomatology was just below significance. However, the positive relationship identified between posttraumatic appraisals and PTSD for drug-rape survivors was comparable to other studies (e.g. Dunmore et al, 1999; Foa et al, 1999), and lends support to the existence of a reciprocal relationship between traumatic stress symptoms, memory and appraisals for drug-rape survivors, as proposed by cognitive models of PTSD (Ehlers and Clark, 2000; Foa et al, 1999). Ehlers and Clarks (2000) model of persistent PTSD proposes that negative appraisals about a trauma or its sequelae maintain symptoms of PTSD through the following effects:
1. A direct increase in fear and anxiety.
2. Mediating a "sense of current threat" to personal integrity or future, therefore increasing the distress associated with intrusive memories. This exacerbates maladaptive coping strategies (e.g. avoidance), which impede emotional processing and maintains PTSD.

As proposed by Ehlers and Clark’s model, posttraumatic fear intensity was significantly increased, and was correlated with PTSD symptomatology, in addition to negative posttraumatic appraisals. Therefore, although intense fear was not experienced during the trauma, it was experienced as an intense “evaluative” emotion post-trauma. Furthermore, as proposed by Ehlers and Clark’s model (2000), the level of distress associated with flashbacks was significantly correlated with negative appraisals and PTSD.

Evaluative emotions (shame; guilt; anger) were reported at high intensities post-trauma, suggesting extensive negative appraisals about the assault or its sequelae. Recent ratings for anger associated with memories of the assault were particularly high, and during the interviews participants reported feeling anger with the police and judicial system for “not believing” them in addition to anger towards the perpetrator. Participants also reported feeling shame about their responses during the assault. These ‘evaluative’ posttraumatic emotions have been empirically shown to independently predict PTSD through secondary cognitive appraisals (Andrews et al, 2000; Brewin et al, 2000). However, only posttraumatic fear was significantly positively associated PTSD severity for drug-rape survivors.

The finding that post-hoc appraisals to some extent exacerbated and maintained PTSD following drug-rape is described in the clinical literature by Weaver et al (1998), who
note that drug-rape survivors may develop PTSD based on "information that they were raped". Many of the participants in the study reported hearing information about what had happened afterwards, or only realising it was rape when they read about drug rape in the newspapers. This further highlights the role of posttraumatic appraisals, UCS\textsuperscript{8}, inflation (Davey, 1989), and memory reconstruction in the development of PTSD following drug-rape, particularly where there is extensive memory loss.

One explanation for the lower than expected significance of the relationship found between PTSD and negative appraisals is that the PTCI questionnaire did not specifically assess appraisals regarding aspects of drug-related memory loss or emotional responses during the trauma. These were reported extensively by participants during the interviews. It would therefore have been beneficial to include quantitative measures of the following appraisals:

- Negative appraisals about emotional and behavioural responses during the rape.
- Negative appraisals regarding posttraumatic amnesia and imagined worst case scenarios.
- Knowledge about the drugs effects (to assess the hypothesis that increased knowledge would be associated with less severe negative appraisals and feelings of responsibility regarding the rape).

Some of the appraisals described by participants during the interviews that were not directly assessed with the PTCI are discussed below. In addition, statistical power to detect even a large effect size 80\% of the time was limited in this study by small sample size. It is therefore possible that the lower than expected amount of variance in PTSD severity accounted for by posttraumatic appraisals is the result of a type II error due to insufficient statistical power to detect a small or medium effect size.

\textsuperscript{8} Unconditioned stimulus
Negative appraisals about reactions during the assault:

All of the 12 participants interviewed in the current study reported negative appraisals about their reactions during the assault, including their suggestibility, lack of fear, disinhibition, and not fighting back. For example, one participant commented of her behaviour during the assault, “I just went along with it...so it must be my fault”, and another survivor said, “I should have done something to stop it...fought back or thought things through better”. Participants therefore seemed to inaccurately perceive themselves, rather than the drugs sedative, anxiolytic and behavioural effects (e.g. disinhibition), to be responsible for their reactions, leading to feelings of self-blame, fear, guilt and shame.

Retrospective research with sexual assault survivors has found persistent PTSD to be associated with the experiencing of higher levels of emotional detachment (shutting off from emotions, reduced fear) during the assault (Dunmore et al, 1999). This relationship was mediated by negative appraisals regarding emotional and behavioural responses during rape, which exacerbated PTSD symptoms. In support of a similar mediating role of posttraumatic appraisals for drug-rape survivors, lower fear intensity during drug-rape was associated with significantly higher negative posttraumatic appraisals and intense posttraumatic fear, both of which were positively correlated with PTSD severity. One participants commented, “normal people would feel fear, why didn’t I? Maybe I wanted it to happen”. Another survivor said, “I didn’t sense the danger or react to it...I can’t trust myself to judge situations anymore”. These quotes illustrate how idiosyncratic appraisals about impaired emotional (e.g. fear) responses during the rape might engender a sense of current threat post-assault, and therefore exacerbate PTSD.
Negative posttraumatic appraisals relating to memory loss

Negative posttraumatic appraisals reported by drug-rape survivors were not found to be significantly associated with the extent of memory loss. However, this may reflect the types of appraisals assessed in the PTCI (which does not include memory loss or dissociative responses), rather than the lack of a relationship. Indeed, participants who were interviewed all reported quite significant negative appraisals about memory loss.

As described in previous research regarding PTSD following head injury (e.g. King, 1997; Parkes, 1993; McNeil and Greenwood, 1996), participants in the current study experiencing PTSD symptoms and intrusive memories of the rape, based on fragments or ‘islands’ of memory and ‘imagined worst case scenarios’. Three participants described being unconscious for the duration of the assault, but still reported visual intrusions, which they described as “worst case scenarios”, thoughts or visual images of what might have happened. In fact, 79.3% of participants reported imagining “worst case scenarios”, which have also been reported following drug-rape by Weaver et al (1998). For example, a participant spoke of “imagining even worse things happened that I can’t remember”, “I can’t remember who did this to me so I have to avoid all men now, in case it was them”, and “fearing I might have willingly gone with him and agreed to the sex”. Another participant said, “I am terrified they videoed me, and that there was a gang”. This suggests that memory loss elicited significant negative appraisals and negative affect, and impeded recovery. As previous research has demonstrated, subjective perceptions of the event and appraisals are most important in predicting PTSD, and not the objective severity or memories of the trauma (Sales, 1984; Dunmore et al, 1999). This offers an explanation as to how drug-rape survivors developed PTSD based on “worst case scenarios” in the absence of any explicit memory.

During the interviews, participants (N = 12) also described negative appraisals resulting from a lack of available information about the drugs’ effects’ both during an assault, and
on later memory loss. For example, one participant commented, “I keep thinking it'll all flood back into mind when I'm not prepared, and I won't be able to cope”, and another, “I'm scared it has damaged my memory forever”. Ehlers and Clark (2000) have demonstrated this type of negative appraisal (catastrophic misinterpretation of ‘symptoms’) to be strongly predictive of more severe and persistent PTSD, as a sense of “current threat” is engendered, and fear increased. Furthermore, maladaptive coping strategies may be invoked as a result of the appraisals, such as avoidance, which impede emotional processing.

Ehlers and Clark’s cognitive model of PTSD propose a negative, reciprocal relationship between impaired encoding and memory, post-traumatic appraisals and PTSD (figure 12), which might occur following drug-rape as a result of autobiographical memory impairment.

4.6. Hypothesis 4: Peritraumatic dissociation and PTSD

It was hypothesised that the psychopharmacological effects of the drugs would be clinically comparable with many of the symptoms of peritraumatic dissociation, and mediated through similar effects on memory encoding and consolidation. Drug-rape survivors’ reported high mean scores of peritraumatic dissociation for all PDEQ items. This supports the notion that peritraumatic dissociation shares clinical similarities to effects of the drugs, including the following (Murray, 1997):

- Emotional numbing
- Amnesia (particularly a disruption of autobiographical memory)
- Depersonalisation (feeling detached from own mental processes or body)
- Altered time perception and disorientation
- Stupor (feeling dazed, stunned or confused)

Peritraumatic Dissociative Experiences Scale – Self Rater Version
• Acting on automatic pilot
• More intense reliving (SAM) after the trauma, as a result of memory disruption

Participants also reported significantly higher peritraumatic dissociation than a comparison group of 'non-drug' rape survivors (data from Griffin et al, 1997). The high and uniformly distributed ratings of dissociation reported by drug-rape survivors could be interpreted as being a pharmacological effect. Descriptions of the drugs effects that were comparable with psychogenic dissociation included, "...like being in a bubble, separate from others around me...separate from my emotions", and "I felt numb and cut-off from what was happening to me". In addition, survivors reported altered time perception, and feeling "zoned out" or "spaced out...totally suggestible...I would do whatever he said without thinking", and one participant reported feeling as though she was "...floating...it was as if it was happening to someone else, I was outside myself". These quotes highlight the comparability of drug-induced dissociation with the characteristics of psychogenic dissociation described by Murray (1997).

Dissociation scores were positively associated with PTSD severity, and accounted for over 15% of the variance in PTSD symptomatology. This relationship is comparable with extensive clinical and experimental research, which has shown peritraumatic dissociation to predict PTSD symptomatology (Holmes and Brewin, in press; Marmar et al, 1994; Griffin et al, 1997). For example, Griffin et al (1997) found peritraumatic dissociation to significantly predict PTSD severity for female sexual assault survivors. The fact that both higher psychogenic and 'drug-induced' dissociation are associated with more severe PTSD suggests that they may share some similarities in their pattern of impact on cognitive-affective processing, and the development of PTSD following rape. In addition, the results suggest that more severe drug-effects might be associated with more severe PTSD.
However, there are alternative explanations for the high peritraumatic dissociation scores obtained for drug-rape survivors. Pre-morbid or trait dissociative tendencies were not assessed in the present study, and it is conceivable that this might have influenced the high dissociation scores. However, this is unlikely to be a problem for three reasons. Firstly, the Dissociative Experiences Scale, which measures trait dissociative tendencies (DES: Bernstein and Putnam, 1986), is strongly correlated with the PDEQ. Secondly, Weiss et al (1995) studied predictors of PTSD in a large sample of emergency service personnel, and found that peritraumatic dissociation significantly predicted PTSD severity independently of the DES, accounting for 16% of the variance in scores. Thus, for psychogenic dissociation during trauma, trait dissociative tendencies are important, but do not account for all the variance in PTSD. Thirdly, trait dissociation is likely to account for even less variance in drug-rape cases, where dissociation is “induced” by drugs, rather than spontaneous.

Some differences from ‘non-drug’ trauma populations also emerged with regards to the relationship between dissociation and PTSD. For drug-rape survivors, PTSD severity was comparable with other trauma populations (e.g. Foa, 1997; Foa et al, 1999), yet dissociation was significantly higher than other trauma populations. This indicates that, whilst the relationship between dissociation and PTSD is similar for this group, drug-induced dissociation may not elevate PTSD as significantly. It has already been noted that for psychogenic dissociation, dispositional factors (e.g. trauma history, CSA\textsuperscript{10}, trait dissociative tendencies, borderline personality disorder) contribute to the severity of peritraumatic dissociative responses, and elicit more severe PTSD (Kennerly, 1996). These factors might be more prominent in individuals who dissociate during trauma without being drugged, explaining the more severe PTSD response.

\textsuperscript{10}Childhood sexual abuse
Finally, although emotional numbing has previously been conceptualised as a characteristic of dissociation (e.g. Griffin et al, 1997), reduced fear during rape was not significantly associated with level of dissociation in this study. To date, no research has been carried out regarding the dissociative effects of benzodiazepines. However, use of the psychoactive drug Ketamine is associated with higher scores of dissociation both at the time of ingestion and subsequently (Curran and Morgan, 2000). This drug causes amnesia, but is not anxiolytic, indicating a dissociative drug-effect may be induced independently of emotional numbing, as occurred in this study.

4.7. Hypothesis 5:
Selective impairment of explicit memory and sparing of implicit memory

"These drugs wipe out conventional memory...however, memory is also in other places...this is how we know and why we suffer trauma" - a survivor's description of explicit memory loss

As hypothesised, episodic memory was rated as significantly impaired by participants, who reported persistent anterograde amnesia for the rape. As found by Mechanic et al (1998) in their investigation of amnesia following ‘non-drug’ rape, extent of amnesia was unrelated to alcohol use in the 12 hours prior to the rape, counselling, or previous mental health problems. This lends further support to the contention that the memory loss was the result of drug-induced impairment of episodic memory. Ratings for amnesia significantly reduced by the last month, but remained moderate to high. Mechanic et al (1998) and Foa et al (1989) note that memory recovery (hypermnesia) can occur following peritraumatic dissociation under appropriate conditions as the memory remains situationally accessible, and can be triggered by matching internal or external
cues. The decrease in amnesia over time is therefore consistent with the triggering of SAM's into consciousness following dissociation.

Although they experienced significant anterograde amnesia, participants reported extremely vivid, uncontrollable, distressing sensory intrusive memories, which were rated as having a high 'reliving' (here and now) quality. These characteristics are consistent with situationally accessible, rather than verbally accessible, memory as they are non-verbal perceptual representations, involuntary, situationally triggered and associated with reliving. Reynolds and Brewin (1997) note that intrusive autobiographical memories are experienced commonly following depression (73%) and are experienced as a "past event", whereas SAM is more uniquely experienced following trauma (43% compared with 9% depressed patients) and is uniquely associated with "reliving".

As found in van der Kolk and Fisler's (1995) descriptive study of the quality of intrusive memories of 46 traumatised adults (CSA and assault), visual images or 'video-clips' were most commonly reported by participants, followed by bodily sensations, smells and sounds. Verbal narrative was, in comparison, fragmented and incomplete. Van der Kolk and Fisler (1995) also note that these memory characteristics are associated with more severe dissociation. Although fear was low at the time of trauma, survivors reported high levels of posttraumatic affect associated with the intrusive memories, particularly fear, shame and anger. For example, one survivor described feeling "<em>fearful at the sound of running water</em>" without knowing why. This woman was raped in a car park near a drain. Another participant reported having a previously unrecalled flashback of the rapist during sex with a subsequent partner, describing it as follows, "<em>it was as if a hole had been torn in my reality, and his menacing face was peering through at me. I was terrified. He was so menacing, and I had not recalled that before...</em>" These
memories, which were triggered involuntarily by cues matching the trauma, demonstrate the encoding of implicit or conditioned memory, and perceptual priming, and are examples of situationally accessible memory (Brewin et al, 1996). However, one difference identified by survivors was the fact that they had often not previously recalled these aspects of the trauma, so it was initially like experiencing it for the first time, rather than being "re-experienced".

In summary, drug-rape survivors experienced intrusive situationally accessible memories, as described by Reynolds and Brewin (1997), but reported extensive anterograde amnesia (impaired explicit memory). This supports the hypothesis that the anterograde amnestic effects of the drugs may impair conceptual processing and the encoding and consolidation of autobiographical memory. However, it also supports the contention that data-driven, perceptual processing is spared, facilitating the encoding and consolidation of SAM, and implicit memory. Furthermore, the intensity of the 'reliving' quality of intrusive memories was positively associated with the level of peritraumatic dissociation, and higher 'reliving' was associated with more severe PTSD. Mechanic et al (1998: 955) note that peritraumatic dissociation, or "is increasingly implicated as playing a significant role in the encoding, storage, and retrieval of traumatic memories", which was the case in this study.

This pattern of memory impairment is comparable to the effects of peritraumatic dissociation on memory (Brewin et al, 1996; Dancu et al, 1996), which propose that it impairs "conceptual, semantic processing" and VAM but leads to the formation of strong situationally accessible memory and 'reliving symptoms' as a result of "data-driven processing" being intact (Dancu et al, 1996; Ehlers and Clark, 2000). Ehlers and Clark (2000) propose that this pattern of memory impairment is associated with persistent PTSD, as the more intense reliving increases fear and distress associated with
memories. In addition, victims may make negative attributions about the memories that elicit a sense of "current threat" and maladaptive coping strategies, which in turn maintain or exacerbate PTSD. Indeed, distress associated with intrusions was found to be significantly associated with negative appraisals and dissociation, and with PTSD.

Although survivors reported impaired episodic memory, and intact implicit memory for the rape, ratings of amnesia were not significantly associated with peritraumatic dissociation or PTSD severity. This differs from previous research with recently traumatised, non-treatment-seeking, rape victims (Mechanic et al, 1998), which found peritraumatic dissociation to predict both the extent of amnesia and PTSD. This difference might be due to a number of factors. Firstly, 37% of Mechanic et al's sample reported significant amnesia at two weeks-post-assault, dropping to 16% at three-months. In comparison, drug-rape survivors reported universally high amnesia at both time points, with none reporting low levels of amnesia. Although the drugs elicit similar clinical effects to dissociation, they induce more severe and persistent amnestic effects, above and beyond that of dissociation. The more detrimental and uniform effects of drugs on autobiographical memory might therefore have precluded a significant relationship between amnesia and dissociation in this study. In addition, self-reports of amnesia present measurement difficulties, and the 1-item rating of amnesia might not be reliable, or adequate to assess the interaction of amnesia with PTSD or dissociation.

4.8. Memory and emotional processing: General considerations
The high rate of PTSD amongst participants, even after counselling and a mean time since assault of two years, suggests that, for many participants, emotional processing was incomplete. Smucker (1997: 201) proposes that, "the interweaving of these two levels of processing is crucial in the successful emotional processing of traumatic material", which enables VAM to overwrite and inhibit further SAM activation, thus
reducing re-experiencing symptoms (Brewin, in press). This integration and inhibition/habituation might be harder to achieve following drug-rape as a result of the more severe and enduring impairment of autobiographical memory (Foa and Hearst-Ikeda, 1996), and also poses problems for the achievement of successful outcomes in psychological therapy for PTSD.


Recent research (Ehlers and Steil, 1995) has demonstrated that the relationship of distress associated with flashbacks and avoidance was mediated by the extent of negative cognitive appraisals, rather than frequency of intrusions. Based on this work, Ehlers and Clark (2000) propose a cognitive model of persistent PTSD, which offers a conceptual framework within which to understand the impact of participants’ drug-induced memory disturbance and negative appraisals on PTSD symptoms. Their model propose that the following two, interrelated processes exacerbate PTSD severity:

- **Disturbed memory processing**: Impaired conceptual processing and strong data-driven processing during the rape. This results in impaired higher order meaning-based retrieval but high levels of involuntary triggering of intrusive memories and affect, and perceptual priming, by temporal cues. Memory is not therefore integrated with pre-existing beliefs and knowledge, and cannot be verbally accessed or inhibited (Brewin, in press).

- **Negative appraisals**: These might include negative attributions relating to memory and memory loss, trust, safety, and reactions during the trauma (self-blame), or its sequelae, including PTSD symptoms, memory loss or the reactions of others.
Within this model, negative appraisals and pathological memory encoding (e.g. as a result of dissociation) are conceptualised as sharing a reciprocal relationship, in which encoding influences appraisals, which are reinforced by eliciting selective recall. As found for drug-rape survivors, involuntary, intense flashbacks and negative appraisals are proposed to exacerbate PTSD symptoms directly though an elevation of negative affect (fear), distress and arousal. This might also serve as an internal trigger of flashbacks, increasing their frequency. In addition, the intense flashbacks and posttraumatic appraisals are both conceptualised as mediating a sense of "current" or "continued threat", even though the trauma is over. Examples of such appraisals are, "my memory has been damaged forever", "I am soiled goods, no one will want me now" and "If the memories come flooding back I will not be able to cope and will fall apart". The sense of current threat is also generated by flashbacks with a strong "here and now" quality, as a result of strong data-driven processing during the trauma.

This sense of current threat and associated negative affect is conceptualised as leading to an increase in distress associated with the memories, resulting in more extensive maladaptive coping strategies to inhibit activation of the aversive memories. However, such strategies arrest adaptive emotional processing and the integration of the memory into existing schemata, leading to a chronic cycle of avoidance and intrusions that Brewin et al (1996) term "premature inhibition of processing".

The psychological impact of drug-rape can be understood within the framework of this model. Survivors in the current study reported both of the risk factors in this model associated with persistent PTSD, which were likely to have been exacerbated by the drug effects:

- Strong data-driven processing during the trauma, and episodic memory impairment
• Negative appraisals (including those relating to memory loss, self-blame, trust and safety, and impaired emotional response during the assault).

These processes resulted in an exacerbation of fear, distress and PTSD post-trauma, both directly and by eliciting a strong sense of “current threat” for drug-rape survivors, as illustrated in figure 12.

As proposed by Ehlers and Clark’s (2000) model, this sense of “current threat” may have resulted in drug-rape survivors increasing their use of maladaptive coping strategies, including rumination or cognitive and behavioural avoidance. Such coping strategies serve to temporarily reduce aversive affect and intrusions. However, the longer-term result of these strategies is that the memories and intense negative emotions remain unprocessed, and negative appraisals remain unchallenged. This therefore maintains the cycle of intrusions and avoidance found with persistent PTSD (Brewin et al, 1996). The finding that negative appraisals and memory disturbance (dissociation) both exacerbated PTSD symptomatology, possibly via an increase in distress associated with intrusions lends support to this model.
Figure 12: Persistent PTSD following disturbed memory and posttraumatic appraisals on symptoms following drug-rape
Adapted from Ehlers and Clark’s Cognitive model of PTSD (2000)

During the rape

‘Peritraumatic dissociation’:
- Poor conceptual processing, encoding and consolidation of episodic memory
- Data-driven processing

Drugs induced impairment of emotions (fear) during rape:
- Reduced fear and impaired emotional processing
- Memory loss
- Behaviour during assault

Recall/encoding affects appraisals, which also lead to selective recall

Post-trauma

Disturbed autobiographical memory:
- Impaired explicit memory
- Preserved implicit memory
- Strong perceptual priming by temporal cues (SAM)
- Intense affect and ‘reliving’

Sense of current threat: Internal or external
- Fear and distress intensified
- Maladaptive coping strategies (avoidance, thought suppression) prevent emotional processing

Negative posttraumatic appraisals: E.g.
- Self: “I am going mad...I am weak”
  “I am soiled goods”
- Self-blame: “The rape happened because of the way I acted”
- World: “The world is a dangerous place, I will never be safe again”
- Memory: “My memory will flood back and I won’t be able to cope”

PTSD symptomatology exacerbated
- Intrusions
- Avoidance
- Arousal

Direct increase in PTSD
High levels of distress and fear associated with memory

Direct increase in PTSD
High levels of distress and fear associated with appraisals
4.10 Methodological considerations

Shortcomings of the study

In considering the findings of this research, a number of methodological issues should be taken into account. Firstly, within the timescale of this study, it was not possible to recruit a matched control group of ‘non-drug’ rape survivors, which limits the conclusions that can be drawn from this research about the effects of the drugs. Secondly, this research is retrospective and relies on self-reports of memories. The data gathered might therefore be subject to recall biases. Given the known reciprocal relationship between memory and appraisals (Ehlers and Clark, 2000), and the reconstructive nature of memory (Schwartz et al, 1993), participants’ subsequent appraisals regarding the rape will have influenced their recall of events and ratings of affect and memory loss (Andrews, 1998). Thirdly, objective confirmation of assault characteristics was not available. However, as it is subjective perception that is central to PTSD (Dunmore et al, 1999), this was not deemed problematic. Fourthly, recruitment was biased in a number of ways. Centres only approached women who had actively asked to participate in research, or who they felt were “at the right state of treatment”. Thus, the results obtained from participants cannot be considered representative of all drug-rape survivors. For example, most participants recalled some memories of the rape, but this is not the case for all survivors. However, so few rapes are reported to the police or reach court, that recruiting from among only those who had would have resulted in even more biased sampling.

The majority of participants had either not reported the rape to the police, or had reported it too late for standard forensic drug tests to be valid. Therefore, in the majority of cases, there was no objective evidence of which drugs each participant was given. However, all participants independently reported similar effects on affect, cognition, behaviour and
memory, all which of which were supported by the experimental literature regarding the effects of these drugs on memory.

There are also some methodological issues relating to the measures used that are worthy of discussion. Firstly, as already discussed, it would have been useful to include items to assess the extent of negative posttraumatic cognitive appraisals regarding emotional, cognitive and behavioural responses during the assault. Such appraisals have been shown to be predictive of PTSD following 'non-drug' rape (Dunmore et al, 1999), and subjective reports suggest they are important for drug-rape survivors too. Secondly, inclusion of a measure of pre-morbid trait dissociative tendencies (e.g. the Dissociative Experiences Scale) would have enabled individual differences in dissociative tendencies to be separated from drug-induced dissociation in the regression analyses. Finally, given that this study was exploratory, a number of statistical tests were conducted, increasing the probability of type 1 error. However, wherever possible, variables were collapsed, and all the statistical analyses presented, with the exception of posttraumatic appraisals and PTSD, were highly significant (P<0.01). Thus, the probability that the findings represent true effects, rather than chance associations is therefore high.

Strengths of the research

This study also has a number of strengths. It is the first research project to investigate the psychological effects of drug-rape, and to draw together psychological (cognitive) theories of PTSD, memory and psychopharmacology to understand its impact for survivors. Previously, counsellors, lawyers and the police had little information to guide their practice in supporting survivors, and it is hoped that this research will be of use in guiding future practice. In addition, recruitment of rape survivors to research is
notoriously difficult, given that many survivors experience shame and difficulties with trust and safety. This is also true for survivors of drug-rape, and the recruitment of 29 participants, although small, was therefore deemed a significant achievement.

Although clinical research methodologies, such as the retrospective self-report design employed in this study, are subject to certain constraints in reliability and validity, they also have considerable merits. This research is ecologically valid, and represents the views and experiences of survivors. However, further validation of these results through controlled experimental psychological research with stronger internal validity would be a beneficial next stage. Possibilities for future research are considered below.

**4.11. Implications for future research**

Experimental approaches to studying traumatic memory and dissociation enable precise measurement of recall to be taken, and have strong internal validity. However, it is debatable the extent to which such approaches can generalise to personally experienced traumas, particularly sexual assault, which cannot be modelled in analogue studies. One useful experimental approach, however, might be to replicate the research conducted by Holmes and Brewin (in press). Holmes and Brewin employed an experimental dissociation paradigm to prospectively investigate the relationship between dissociation and intrusive memories. Individuals who dissociated by engaging in a dot-staring task whilst watching a traumatic film reported (in a daily diary) experiencing increased frequency of (visual) intrusions and lower verbal recall in the following weeks. A ‘drug’ and placebo could usefully be compared in the same paradigm. This would offer an insight into the quality and quantity of intrusive emotional memories over time following administration of a precise amount of a drug like a benzodiazepine.
In addition, it is of interest whether controlled administration of a benzodiazepine to survivors would serve as an internal trigger for implicit or situationally accessible memories of the assault. Current cognitive models of PTSD (e.g. Brewin et al, 1996) propose that situationally accessible memories for trauma can be involuntarily primed or triggered into consciousness by both external and internal trauma-related cues, including affective and cognitive states. In support of this possibility, one participant, who was drug-raped twice by her assailant, described recalling the first assault when under the influence of the drugs for the second time, commenting, "It was as though the drugs effects triggered a door in my memory to be opened". However, this possibility also raises the contentious issue of the validity of recovered memories, which might be difficult to assess.

Finally, replication of this research with the addition of a matched control group of 'non-drug' sexual assault survivors would be extremely useful in elucidating the similarities and differences between the psychological impact of drug-rape and non-drug sexual assaults. This was not achieved within the time scale of the current research, but is an important aim for future research, as the conclusions that can be drawn from this research are otherwise limited.

This research has a number of implications both for current conceptualisations of PTSD, and for clinicians working with survivors of drug-rape. Firstly, it demonstrates, importantly, that drug-rape survivors experience chronic and severe symptoms of anxiety, depression and PTSD, which are comparable in both quality and quantity to other trauma populations. Furthermore, drug-induced loss of consciousness during the rape, and consequent anterograde amnesia did not lessen the severity of posttraumatic symptomatology in this study. These results indicate the need to make psychological therapy services available to survivors of drug-rape, and demonstrate the long-term, detrimental impact of this type of assault on survivors' emotional wellbeing.

A second implication is regarding DSM-IV criteria for PTSD diagnosis. Freedy et al (1994) found successful access to counselling to be positively associated with a DSM-IV diagnosis. A similar association is also found between diagnosis and criminal compensation. However, over a third of participants did not fulfil DSM-IV criterion A1 and/ or A2 for PTSD due to the moderating effects of the drugs during rape, and therefore could not receive a diagnosis of PTSD. This suggests that achieving legal and clinical remediation might therefore be more difficult for survivors of drug-rape. This seems unjust, given that these participants reported posttraumatic symptomatology (intrusions, arousal and avoidance) of comparable severity to those who met DSM-IV criterion A, and to 'non-drug' PTSD populations. A more accurate measure of the impact of drug-rape, both in clinical and legal contexts, might therefore be the severity of current symptomatology, rather than the presence or absence of a diagnosis.
Furthermore, this research supports a growing body of empirical research in showing that peritraumatic dissociation and emotional numbing during trauma actually result in more, rather than less, severe PTSD (Dunmore et al, 1999; Roemer et al, 1998; Griffiths et al, 1997). It also suggests that severe PTSD can develop in the absence of intense fear, helplessness or horror during the trauma. Again, these are important findings for therapists and for gaining criminal injuries compensation. In addition, they highlight a theoretical shortcoming of current conceptualisations of PTSD, in their emphasis on intense affect and perceived life threat during trauma as central to diagnosis. Taken together, both the current and previous research suggest that future diagnostic criteria should incorporate peritraumatic emotional numbing and dissociative responses into its conceptualisation of Criterion A1 and A2 for PTSD diagnosis.

The model presented in Figure 12 offers a useful conceptual framework, adapted from Ehlers and Clark (2000) in which to understand the impact of drug-rape and structure cognitive-behavioural interventions. As their model indicates, the intervention will depend on the extent of memory impairment, content of negative appraisals, and particular maladaptive coping strategies employed by a survivor. Some potential strategies for interventions with drug-rape survivors are described below.

Current cognitive conceptualisations of PTSD (Brewin et al, 1996; Ehlers and Clark, 2000) highlight both imaginal exposure to trauma memories (SAM's), and cognitive restructuring (of VAM's) (Padesky, 1994) as key components of therapy for PTSD. Participants reported situationally accessible intrusive memories of comparable quality to other trauma populations (van der Kolk and Fisler, 1995), based on fragments or “islands” of memory for the rape, indicating that imaginal exposure therapy would be an
appropriate intervention following drug-rape. However, higher drug-induced dissociation was shown to result in more fragmented, uncontrollable, vivid 'reliving' symptoms, and severely impaired autobiographical memory. Such effects are known to impede successful habituation to the traumatic memory and the development of a coherent trauma narrative though exposure therapy (Foa and Hearst-Ikeda, 1996). The drug-induced impairment of autobiographical memory is therefore likely to impede emotional processing and psychological therapy for PTSD.

In addition, previous research has demonstrated subjective perceptions of trauma, rather than objective memories or severity, to predict PTSD (Sales et al, 1984). Therefore, targeting commonly reported “worst case scenarios” using cognitive therapy approaches would be beneficial, particularly for survivors who have no explicit memory of the rape and cannot undertake imaginal exposure. Given that some participants reported feeling “driven” to “go over and over events to try and remember”, focusing cognitive therapeutic interventions on facilitating acceptance of memory loss, challenging specific catastrophic interpretations regarding memory loss (e.g. “it'll all come flooding back and I won't be able to cope”), and “I need to remember to get over this”) to alleviate chronic processing would beneficial.

In addition to negative appraisals about their memory loss, participants reported high levels of negative appraisals on the PTCI regarding control, trust, self-blame and safety and their reactions at the time of the assault. The relationship of negative posttraumatic appraisals with elevated posttraumatic fear and PTSD symptomatology indicates that cognitive restructuring approaches (e.g. Padesky, 1994) focussing on these appraisals would also benefit survivors. As Weaver et al (1998) have highlighted, cognitive
Interventions to challenge negative appraisals in PTSD following drug-rape might be the sole form of intervention with survivors who have no explicit memory of the trauma. They note that, “Trauma-focused work with [drug-rape] victims with little (or no) memory focuses on their thoughts and fears about the experience. For example, there can be a profound impact on the individual’s sense of personal control, thoughts about the malevolence of others, and imagined ‘worst case scenarios’”. Particular negative cognitive appraisals identified through this research as foci for assessment and intervention through cognitive restructuring include:

- Self-blame relating to behaviour or emotional response during the assault.
- Negative appraisals regarding memory loss (fears that something “even worse” happened or that the memories would “come flooding back and be unmanageable”).
- Issues of trust, control and safety, and self-directed negative cognitions.
- Negative appraisals about the long-term effects of the drugs, e.g. “they have damaged my brain permanently”, which could be challenged through psychoeducation about the drugs.

Finally, participants universally reported low levels of peritraumatic affect and negative cognitions (i.e. no “emotional hotspots” or moments of intense affect during the trauma) due to the moderating effects of the drugs. Rather, negative appraisals and intense emotions associated with rape memories developed post-trauma. This suggests that, for this population, cognitive restructuring could be successfully achieved outside reliving, as appraisals are unlikely to have occurred peritraumatically, and been encoded in SAM (Grey, Holmes and Brewin, in press).
4.13. Summary

This is the first research project to clinically investigate the psychological consequences of drug-rape. The results were considered in the light of current cognitive theories of memory and PTSD, as well as cognitive psychopharmacology. Drug-rape survivors experienced significant depression, anxiety and PTSD, which was comparable with other trauma populations. This was true even for the third of participants who did not meet DSM-IV diagnostic criterion A1 and/ or A2 for PTSD, and for participants with extensive memory loss for the rape. The cognitive effects of the drugs shared clinical and conceptual similarities with peritraumatic dissociation, and were similarly predictive of PTSD severity, and the ‘reliving’ quality of intrusive memories. Furthermore, drug-induced numbing of fear responses during the rape was associated with more extensive negative posttraumatic appraisals, fear and PTSD symptomatology. These results add to a growing body of empirical research indicating that current conceptualisations of PTSD, including DSM-IV criterion A, should incorporate emotional numbing and dissociation, in addition to intense fear, helplessness and horror. This study supports the existence of a reciprocal relationship between negative appraisals and attributions, and the severity of PTSD symptomatology, with a similar profile of negative appraisals being identified for drug-rape survivors as for other rape populations.

Based on their cognitive model (figure 12), Ehlers and Clark (2000) propose the following interventions for chronic PTSD:

- Elaboration and contextualisation of memory (SAM) for the trauma through imaginal exposure, to place it within the context of prior experience
- Modification of maladaptive posttraumatic appraisals that elicit increased fear and arousal
- Reduction in dysfunctional cognitive and behavioural coping strategies such as avoidance

The finding that drug-rape survivors reported comparable intrusive memories and negative appraisals to ‘non-drug’ trauma populations, both of which were associated with more severe PTSD, indicates that this approach would similarly benefit drug-rape survivors. However, the drug-induced impairment of episodic memory is likely to make achieving complete emotional processing much more difficult.
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APPENDICES
The University College London Hospitals

The Joint UCL/UCLH Committees on the Ethics of Human Research

Committee Alpha Chairman: Professor André McLean

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13 June 2000

Dr Curran
Sub-Department of Clinical Health Psychology
UCL

Dear Dr Curran,

Study No: 00/0103 (Please quote in all correspondence)
Title: A comparison of post-traumatic symptoms of victims of "drug rape" with victims of "non-drug" rape.

Thank you for your letter dated 2nd June 2000, regarding the above study. The study can now go ahead.

With best wishes.

Yours sincerely

Professor André McLean, BM Bch PhD FRC Path
Chairman
APPENDIX 2: SEXUAL ASSAULT MEMORY QUESTIONNAIRE

Victim Support Supportline: 0845 3030900

SEXUAL ASSAULT MEMORIES QUESTIONNAIRE

This questionnaire asks about memory for sexual assault. There are sections about feelings, thoughts and different types of memories of the assault that are sometimes experienced by survivors. Please read all the instructions and questions carefully and complete all the questions. If you have any additional comments or information that you feel are important for us to know, please write them at the end of this questionnaire.

If you have any queries or difficulties in completing the questionnaire, please do not hesitate to contact Emma Russell on 07940 523 596, or by email: Emma@labradors.demon.co.uk.

Your age now: ________ years

How long ago did the assault occur? ___ years ___ months

SECTION 1: THE ASSAULT

Who committed the assault against you? Please circle the number next to your answer

1  Stranger
2  Spouse/ partner
3  Friend
4  Relative (state who)
5  Other (please specify) ________________________________
6  Don’t know

Were you drug-raped? Please tick one box

☐ YES  ☐ NO  ☐

DON’T KNOW/ UNSURE

If YES, please also complete the additional DRUG-RAPE questions in SECTION 9 at the end of this questionnaire

For how long during the assault were you conscious? Please tick one of the boxes below

☐ None  ☐ A little  ☐ Half  ☐ Most of it  ☐ All
SECTION 2: YOUR THOUGHTS AND FEELINGS DURING THE ASSAULT

The questions in this section ask about what was running through your mind during the assault and how these thoughts made you feel. By thoughts we mean the IDEAS, UNDERSTANDING and INTERPRETATIONS that you had about what was happening DURING the assault rather than your later thoughts or memory of what actually happened:

Do you remember what was going through your mind during the assault?

☐ Everything  ☐ Some thoughts remembered  ☐ No recollection of thoughts during the assault (If none, go to section 3)

Can you briefly describe the most distressing of your thoughts that went through your mind during the assault: (E.g. was your mind bank, unconscious, were you fearful for your life, planning how to escape...)

How distressing were these thoughts at the time? Please circle the rating from 0-4 that applies for you below:

0 No distress (Numb/unconscious)
1 Mild
2 Moderate
3 Severe
4 Extreme

What feelings or emotions did you experience at the time of the assault? How strongly did you feel each of these emotions? You may have felt none, one, or more than one, of these feelings.
Please circle the rating from 0-4 that applies for you for each emotion:

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<td>4</td>
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<tr>
<td>Shame</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Anger</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Horror</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Helplessness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Anything else?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Which feelings?
SECTION 3: YOUR MEMORY IN THE MONTH AFTER THE ASSAULT

In this section, you will be asked about your memories of the assault in the month after it happened. In the following sections you will be asked about your memories now (in recent weeks).

In the month following the assault, did you have any gaps in your memory for the assault? Circle the rating from 0-4 that applies for you below:

- Full memory
- Some gaps
- No memories at all

If yes, can you briefly describe how you have coped with/ tried to deal with these gaps? E.g. asked others about what happened, returned to the scene of the crime to jog memory, pushed it out of your mind, tried to fill in the gaps in your mind.

How has the memory loss affected you? What has been the hardest or worst thing about it?

3(a) Memories of the assault in the month after the assault:

In the month following the assault, did you experience any ‘intrusive memories’ or ‘flashbacks’? We mean intrusive memories of the assault that pop into your mind spontaneously (unexpectedly). They could have seemed like normal memories of the past or they may have taken you by surprise, and felt like the trauma was happening again NOW, in the present (a ‘flashback’). We don't mean times when you have deliberately thought about it or mulled over it. Please circle a rating from 0-5:

- 0 Never
- 1 Once or twice
- 2 Once or twice a week
- 3 Several times a week
- 4 Daily or almost every day
- 5 More than once per day
What were these flashbacks/intrusive memories like? Please circle the rating from 0-3 below:

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Images/ mental pictures</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1 Like 'Video-clips'</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2 Physical/ bodily sensations</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3 Smells</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4 Sounds</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5 Intense emotions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6 A story (in words)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7 Other: Please describe</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

What feelings or emotions did you experience along with these intrusive memories/flashbacks? How strongly did you feel each feeling? You may have felt none, one, or more than one, of these feelings. Please circle the rating from 0-4 that applies for you for each emotion:

| | Not at all | intensely |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 Fear | 0 | 1 | 2 | 3 | 4 |
| 1 Guilt | 0 | 1 | 2 | 3 | 4 |
| 2 Shame | 0 | 1 | 2 | 3 | 4 |
| 3 Anger | 0 | 1 | 2 | 3 | 4 |
| 4 Horror | 0 | 1 | 2 | 3 | 4 |
| 5 Helplessness | 0 | 1 | 2 | 3 | 4 |
| 6 Anything else? | 0 | 1 | 2 | 3 | 4 |

How vivid/clear were these flashbacks/intrusive memories? Please circle a rating from 0-3 below:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all vivid</td>
<td>Unclear/ fragmented</td>
<td>Some detail</td>
<td>Very clear/ vivid</td>
<td></td>
</tr>
</tbody>
</table>

How distressing were these flashbacks/intrusive memories for you? Please circle a rating from 0-4 below:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No distress</td>
<td>Mild: Minimal distress or disruption of activities</td>
<td>Moderate: Some disruption of activities but manageable</td>
<td>Severe: Considerable distress and marked disruption of activities</td>
<td>Extreme: Overwhelming distress, unable to continue daily activities</td>
</tr>
</tbody>
</table>

How much control did you have over them (e.g. In when they came to mind, or stopping thinking about them). Please circle the rating from 0-5 that applies for you below:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No control</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
To what extent did these memories feel as though you were re-living the rape now, as though it was happening in the here-and-now, rather than looking back at the past? Please select the rating from 0-5 that applies for you below:

Not reliving 0 1 2 3 4 5 Intense reliving

How sure did you feel that the flashback(s) or intrusive memories were an accurate/real memory of something that happened at the time of the assault? Please circle your answer, from 1-10, below:

0 1 2 3 4 5 6 7 8 9 10
Totally unsure
Completely sure that it is accurate

Overall, in the month after the assault, to what extent has your memories of the rape formed a full ‘story’ that you could explain to other people? Please circle a rating from 1-10 below:

0 1 2 3 4 5 6 7 8 9 10
Not at all
Totally clear memory that could explain to others

SECTION 4: YOUR MEMORIES ABOUT THE ASSAULT NOW

In the past few weeks, have you had any gaps in your memory for the assault? Please circle the rating from 0-4 that applies for you:

Full memory some gaps No memories at all
0 1 2 3 4 5

4(a) Memories of the assault in the last few weeks:

In the last few weeks, have you had any ‘intrusive memories’ or ‘flashbacks’? We mean intrusive memories of the assault that pop into mind spontaneously (unexpectedly). They could seem like normal memories of the past or they may take you by surprise, and feel like the trauma is happening again NOW, in the present (a ‘flashback’). We don't mean times when you deliberately think about it or mull over it. Please circle a rating from 0-5 below:

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day
5 More than once per day
In the past few weeks, what were these flashback memories like? Please circle a rating from 0-3 for each type of memory:

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Images/ mental pictures 0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>Like 'Video-clips' 0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Physical/ bodily sensations 0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Smells 0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Sounds 0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Intense emotions 0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>A story (in words) 0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Other: Please describe 0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

What feelings or emotions do you experience along with these intrusive memories/ flashbacks? How strongly do you feel each feeling? You may have felt none, one, or more than one, of these feelings.

Please circle the rating from 0-4 that applies for you for each emotion:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fear 0</td>
</tr>
<tr>
<td>1</td>
<td>Guilt 0</td>
</tr>
<tr>
<td>2</td>
<td>Shame 0</td>
</tr>
<tr>
<td>3</td>
<td>Anger 0</td>
</tr>
<tr>
<td>4</td>
<td>Horror 0</td>
</tr>
<tr>
<td>5</td>
<td>Helplessness 0</td>
</tr>
<tr>
<td>6</td>
<td>Anything else? 0</td>
</tr>
</tbody>
</table>

How vivid/ clear were these flashbacks in the past few weeks? Please circle a rating from 0-3 below:

- 0 Not at all vivid
- 1 Unclear/ fragmented
- 2 Some detail
- 3 Very clear/ vivid

How distressing have these flashbacks/ intrusive memories been for you in the past few weeks? Please circle the rating from 0-4 that applies for you:

- 0 No distress
- 1 Mild: Minimal distress or disruption of activities
- 2 Moderate: Some disruption of activities but manageable
- 3 Severe: Considerable distress and marked disruption of activities
- 4 Extreme: Overwhelming distress, unable to continue daily activities

How much control did you have over these flashbacks/ intrusive memories in the past few weeks (e.g. In when they came to mind, or stopping thinking about them). Please circle a rating from 0-5 below:

- No control
- 0 1 2 3 4 5 total control
To what extent did these memories feel as though you were re-living the rape now, as though it was happening in the here-and-now, rather than looking back at the past? Please select the rating from 0-5 that applies for you below:

Not reliving 0 1 2 3 4 5 Intense reliving

In the last few weeks, how sure do you feel that these/this flashback or intrusive memories are an accurate/real memory of something that happened at the time of the assault? Circle your answer, from 1-10, below:

0 1 2 3 4 5 6 7 8 9 10
Totally Unsure
Completely sure that it is accurate

Overall, in the last month to what extent has your memories of the rape formed a full ‘story’ that you could explain to other people? Please circle a rating from 1-10 below:

0 1 2 3 4 5 6 7 8 9 10
Not at all
Totally clear memory that could explain to others

SECTION 5: GENERAL QUESTIONS ABOUT YOUR MEMORY FOR THE ASSAULT

How long after the assault did you first experience an intrusive memory or flashback?

_____ Never _____ Hours _____ Days _____ Months _____ Years (please fill in the time as appropriate)

Have you ever checked out what you remember with other people? (Please tick one box below)

☐ No, nobody available to check with
☐ No, chose not to check out my memories with others
☐ Yes, I did ask others about what happened and about my memories
Has your memory of the assault changed over time? (Please circle your answer)

0 1 2 3 4 5
Not at all completely changed

Since the assault, have you found yourself wanting to go over and over what happened in your mind?

Not at all 0 1 2 3 4 5 Very much so

If your memories for the assault has changed over time, please describe how your memory has changed below: (E.g. in how much you remember, what you remember, changes in flashbacks...)

How sure are you now that your memories of the assault are accurate? Please rate (0-100%) for the following:

a) Time _____ % sure
b) Place _____%
c) People _____ %
d) Events _____%

Have you made an effort not to think about the assault since it happened or to push memories out of your mind? Please circle the rating that applies for you:

Not at all 0 1 2 3 4 5 Very much so
SECTION 6: EMOTIONAL WELLBEING
Have you had any psychological/ emotional difficulties for which you sought professional help before the rape happened: (Please circle all those that apply for you)

Before the assault took place
1  None
2  Anxiety problem e.g. phobia/ panic
3  Depression
4  Other (please specify)

SECTION 7: DRUGS/ MEDICATION (Legal and non-prescribed medication)
Had/ have you voluntarily taken any prescribed or non-prescribed drugs, OTHER THAN ALCOHOL, at the following times (as these may affect memory)? (please tick as appropriate)

1) In the 12 hours prior to the assault:  □ NO  □ YES, please state which drugs below:

2) Currently (in the time since the assault)  □ NO □ YES, please state which drugs below:

ALCOHOL
How many units of alcohol did you drink in the 12 hours prior to the assault?

_______ (Please write 0 if none)
(1 unit = ½ pint of beer or a glass of wine)

SECTION 8: SUPPORT FOLLOWING THE ASSAULT
Have you received any support from professionals since the assault?

□ YES  □ NO

If yes, please indicate the type of support you have received below.
Have you received any counselling/psychotherapy since the assault? ☐ NONE

Frequency of contact with this professional

☐ Weekly

☐ Fortnightly

☐ Monthly

☐ Other (specify)

Are you still receiving this support? ☐ YES ☐ NO

Was the assault reported to the police? ☐ NO ☐ YES, how long after the assault? 

Was legal action taken against the perpetrator?

1. No legal action taken
2. Acquitted/let off
3. Tried to take legal action but never reached court
4. Sent to prison
5. Other (please give details)
SECTION 9: ADDITIONAL QUESTIONS FOR DRUG RAPE SURVIVORS ONLY

If you know that you were DRUG-RAPED, or think this might have been the case, please could you answer the following questions:

How long before the assault took place do you think you were given a drug? 

_________ Hours _________ minutes or | _ _| Not sure | __|  Not applicable

How do you think you were given this drug? (please circle one answer below)

1  By force (physically)
2  Without your knowledge (e.g. in a drink)
3  You were tricked into taking it
4  Other (please specify)
5  Don’t know

What type of drug do you think you were given?

(Please put DK if you don’t know)

What led you to think that you were given this particular drug?

Were any urine or blood tests carried out to identify drugs?

[ ] YES  [ ] NO  [ ] DON’T KNOW

What were the results of these tests?  [ ] NEGATIVE  [ ] POSITIVE

Please give details of any DRUGS identified:
OPTIONAL FOLLOW-UP INTERVIEW

We would be grateful if you would read and answer the following questions before returning the questionnaires.

Please circle your chosen answer

O Please indicate whether you are willing to undertake a short YES*/ NO 'phone or face to face interview with a female psychologist as a follow-up to the questionnaires

* If you are willing to be contacted with regards to undertaking a short interview, please indicate below how you would prefer to be contacted. Please write your name, and your address, email AND/OR your 'phone number in the space provided below, so that we are able to contact you in confidence about the project in writing, by email or by 'phone.

(If you do not wish to be interviewed, you can return the completed questionnaires without completing the personal contact details below).

NAME: __________________________________________

(Please print your name in block capitals)

ADDRESS: _______________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

Postcode: _______________________________________

EMAIL: _______________________________________

PHONE NO: _______________________________________

All information including names and personal details will remain strictly confidential to the research team

Please ensure that you have answered all questions

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

If you have any additional comments or information that you think is important for us to know, please add these comments in the space provided below:

If you have any queries or difficulties in completing the questionnaire, please do not hesitate to contact Emma Russell on 07940 523 596, or by email: Emma@labradors.demon.co.uk.

All proposals for research using human participants are reviewed by an ethics committee before they can proceed. This proposal was reviewed by the joint UCL/ UCLH committees on the ethics of human research.
APPENDIX 3: POSTTRAUMATIC COGNITIONS INVENTORY

Victim Support Supportline: 0845 3030 900

PTCI

This questionnaire lists different thoughts, which people may have after a traumatic experience. In this questionnaire we are interested in the way that YOU thought, IN THE LAST MONTH in regard to the traumatic event (sexual assault) that you have experienced.

Please read each statement carefully and decide how much you have AGREED or DISAGREED with each statement IN THE PAST MONTH.

For each of the thoughts, please show your answer by choosing the number from the scale below which BEST DESCRIBES HOW MUCH YOU AGREE WITH THE STATEMENT and circling the number next to that statement. People react in many different ways; there are no right or wrong answers to these statements.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally Disagree</td>
<td>Disagree very much</td>
<td>Slightly Disagree</td>
<td>Neutral</td>
<td>Slightly Agree</td>
<td>Agree</td>
<td>Totally Agree</td>
</tr>
</tbody>
</table>

1) My reactions since the assault mean that I am going crazy
(2) Somebody else would have stopped the event from happening
(3) I feel like an object, not a person
(4) I have to be on guard all the time
(5) Nothing good can happen to me anymore
(6) I will not be able to control my anger and will do something terrible
(7) The event happened to me because of the sort of person I am
(8) The world is a dangerous place
(9) I feel like I don’t know myself any more
(10) If I think about the event, I will not be able to handle it
(11) People can’t be trusted
(12) My life has been destroyed by the event
(13) Somebody else would not have gotten into this situation
(14) I can’t deal with even the slightest upset
(15) I feel dead inside
## APPENDIX 3: PTCI continued...

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Totally Disagree</td>
<td>Disagree very much</td>
<td>Disagree Slightly</td>
<td>Neutral</td>
<td>Agree Slightly</td>
<td>Agree Very Much</td>
<td>Totally Agree</td>
</tr>
<tr>
<td>(16) People are not what they seem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(17) I can’t rely on myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(18) There is something wrong with me as a person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(19) I will never be able to feel normal emotions again</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(20) I have to be especially careful because you never know what can happen next</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(21) My reactions since the event show that I am a lousy coper</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(22) I am inadequate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(23) You can never know who will harm you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(24) I feel isolated and set apart from others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(25) I have no future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(26) There is something about me that made the event happen</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(27) I have permanently changed for the worse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(28) I can’t rely on other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(29) I can’t trust that I will do the right thing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(30) I am a weak person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(31) The event happened because of the way I acted</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(32) I used to be a happy person but now I am always miserable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(33) I can’t stop bad things from happening to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(34) I will not be able to tolerate my thoughts about the event, and I will fall apart</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(35) I will not be able to control my emotions, and something terrible will happen</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(36) You never know when something terrible will happen</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>(37) I should be over this by now</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
APPENDIX 4: POST-TRAUMATIC DIAGNOSTIC SCALE

Victim Support Supportline: 0845 3030 900

CONFIDENTIAL

PTDS QUESTIONNAIRE

1. We would be grateful if you would answer ALL the questions below about the sexual assault you experienced.

How long ago did the sexual assault happen? (circle ONE)

1  Less than one month
2  1 to 3 months
3  3 to 6 months
4  6 months to 3 years
5  3 to 5 years
6  More than 5 years

2. For the following questions, please circle Y for YES and N for NO.

During the traumatic event (sexual assault):

Y  N  Were you physically injured?
Y  N  Was someone else physically injured?
Y  N  Did you think that your life was in danger?
Y  N  Did you think that someone else’s life was in danger?
Y  N  Did you feel helpless?
Y  N  Did you feel terrified?
3. Below is a list of experiences that people sometimes have after experiencing a traumatic event. Read each one carefully and circle the number (0-3) that best describes how often the problem has bothered you IN THE PAST MONTH. Rate each problem with respect to the sexual assault.

0 Not at all or only one time
1 Once a week or less/ once in a while
2 2 to 4 times a week/ half the time
3 5 or more times a week/ almost always

Having upsetting thoughts or images about the traumatic event that came into your head when you didn’t want them to

Having bad dreams or nightmares about the traumatic event

Reliving the traumatic event, acting or feeling as if it were Happening again

Feeling emotionally upset when you were reminded of the traumatic event (for example, feeling scared, angry, sad, guilty etc.)

Experiencing physical reactions when you were reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast)

Trying not to think about, talk about, or have feelings about the traumatic event

Trying to avoid activities, people or places that remind you of the traumatic event

Not being able to remember an important part of the traumatic event

Having much less interest or participating much less often in important activities

Feeling distant or cut off from people around you

Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings)

Feeling as if your future plans or hopes will not come true (for example, you will not have a career, marriage, children or a long life)
QU.3 continued...

**PAST MONTH**

- Having trouble falling or staying asleep
  - 0
  - 1
  - 2
  - 3

- Feeling irritable or having fits of anger
  - 0
  - 1
  - 2
  - 3

- Having trouble concentrating (for example, drifting in and out of conversations, losing track of a story on television, forgetting what you read)
  - 0
  - 1
  - 2
  - 3

- Being overly alert (for example, checking to see who is around you, being uncomfortable with your back to the door etc.)
  - 0
  - 1
  - 2
  - 3

- Being jumpy or easily startled (for example, when someone walks up behind you)
  - 0
  - 1
  - 2
  - 3

---

How long have you experienced the problems that you reported above? (circle ONE)

1. Less than 1 month
2. 1 to 3 months
3. More than 3 months

How long after the traumatic event did these problems begin? (circle ONE)

1. Less than 6 months
2. 6 or more months
PTDS Continued…

4. Indicate below if the problems you rated in Part 3 have interfered with any of the following areas of your life DURING THE PAST MONTH

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>Work</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>Household chores and duties</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>Relationships with friends</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>Fun and leisure activities</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>Schoolwork</td>
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<td>Y</td>
<td>N</td>
<td>Relationships with your family</td>
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<tr>
<td>Y</td>
<td>N</td>
<td>Sex life</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>General satisfaction with life</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>Overall level of functioning in all areas of your life</td>
</tr>
</tbody>
</table>
APPENDIX 5: PDEQ and HADS

PERITRAUMATIC DISSOCIATIVE EXPERIENCES SCALE (PDEQ)

Victim Support Supportline: 0845 3030 900 Confidential

Instructions: Please complete the items below by circling the choice that best describes your experiences and reactions during the assault and immediately afterwards. If an item does not apply to your experience, please circle “not at all true”.

I had moments of losing track of what was going on - I "blanked out" or "spaced out" or in some way felt that I was not part of what was going on.

1  2 3 4 5
Not at all true Slightly true Somewhat true Very true Extremely true

I found that I was on "automatic pilot" - I ended up doing things that I later realised I hadn’t actively decided to do.

1  2 3 4 5
Not at all true Slightly true Somewhat true Very true Extremely true

My sense of time changed - things seemed to be happening in slow motion.

1  2 3 4 5
Not at all true Slightly true Somewhat true Very true Extremely true

What was happening seemed unreal to me, like I was in a dream or watching a movie or play.

1  2 3 4 5
Not at all true Slightly true Somewhat true Very true Extremely true

I felt as though I were a spectator watching what was happening to me, as if I were floating about above the scene or observing it as an outsider.

1  2 3 4 5
Not at all true Slightly true Somewhat true Very true Extremely true
**PDEQ continued...**

*Instructions:* Please complete the items below by circling the choice that best describes your experiences and reactions *during the assault* and *immediately afterwards*. If an item does not apply to your experience, please circle "not at all true".

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td></td>
<td>Not at all true</td>
<td>Slightly true</td>
<td>Somewhat true</td>
<td>Very true</td>
<td>Extremely true</td>
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<tbody>
<tr>
<td></td>
<td>I felt as though things were actually happening to others were happening to me, like I was being trapped when I wasn’t really.</td>
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<tr>
<td></td>
<td>Not at all true</td>
<td>Slightly true</td>
<td>Somewhat true</td>
<td>Very true</td>
<td>Extremely true</td>
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<tr>
<td></td>
<td>I was surprised to find out afterwards that a lot of things had happened at the time that I not aware of, especially things that I ordinarily would have noticed.</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Not at all true</td>
<td>Slightly true</td>
<td>Somewhat true</td>
<td>Very true</td>
<td>Extremely true</td>
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<tr>
<td></td>
<td>I felt confused; that is, there were moments when I had difficulty making sense of what was happening.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Not at all true</td>
<td>Slightly true</td>
<td>Somewhat true</td>
<td>Very true</td>
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<tr>
<td></td>
<td>I felt disorientated; that is, there were moments when I felt uncertain about where I was or what time it was.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not at all true</td>
<td>Slightly true</td>
<td>Somewhat true</td>
<td>Very true</td>
<td>Extremely true</td>
</tr>
</tbody>
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APPENDIX 6: CASE STUDIES

Six case studies are presented, to demonstrate the wide range of circumstances in which drug-rape can occur. These cases are selected with permission of the participants, but certain factual details have been changed to protect confidentiality.

CASE 1: Jane’s story: Drug-rape by a stranger

Jane, a young woman in her early twenties, contacted the research team via her local Rape Crisis Centre. She had not spoken to anyone about the rape, which had occurred approximately 18 months earlier.

Jane went to her local pub for a drink after work with a male friend. Her friend noticed a man standing alone at the bar, and they asked him if he wanted to join them, as he looked upset. She said it was a “friendly pub, where everyone chats to each other”, and this was therefore not out of the ordinary. The man bought Jane a drink and they continued talking for some time. However, Jane began to feel “as though I was drunk…even though I had only had 3 glasses of wine”, and recalls little of the events that followed. According to later reports from Jane’s friend, she insisted that she wanted stay with the man she met in the pub, who promised to walk her home (just around the corner) at closing time. When her friend left, Jane was behaving in a very disinhibited manner, including kissing the man she met earlier in the evening, and laughing and joking loudly. Jane said this behaviour was totally out of character as she had a happy relationship with a partner which she did not wish to jeopardise, and was normally “quite a shy person”.

The next memory that Jane had was waking up in a bed, to find the man from the pub was having sex with her. She described being woken by feelings of physical pain, but felt “disconnected from what was going on around her, and very confused, drowsy and unable to move”. Jane said that, on seeing she was awake, the attacker said “oh
no, you’re awake”. Jane described feeling confusion at this point, but not fear as “I was too out of it...too spaced out”. Shortly after this, Jane recalled getting dressed and having a cup of tea with this man, something she later found hard to accept. He then paid for her to take a taxi home. The next day she was bruised and shaken, but did not tell anyone about the rape, except her partner. Jane feared “no one will believe me...I had tea with the man that raped me...they’ll just think I consented”.

In the following months, she experienced symptoms of PTSD, including flashbacks, avoidance of reminders and hyper-arousal e.g. being very easily startled. Jane described how some of her memories came into consciousness “in flashes” in the month following the assault, but that much of her memory has never returned. Initially, Jane was “haunted” by images of what might have happened, but has gradually been able to accept the memory loss. It was some months later that Jane watched a television programme about drug-rape, and “realised that it was not my fault...it was the drugs that made me do what I did”. She commented that it would have been really helpful to have access to information about the effects of the drugs used in drug-rapes, as this would have reduced her feelings of blame and shame regarding her behaviour and response during the assault. Jane said that it was a “relief to know that other people act in the same way, that it was not just me”. She described taking part in the research as “therapeutic”, as she felt she was “doing something positive to help other women who have been through this experience”. Talking about her experiences at the interview led Jane to seek professional counselling for the rape with the help of the research team.
CASE 2: Kim’s story: Drug-rape by a work colleague

Kim was a professional in her late-thirties, and was married with young children. About 2½ years ago, when she was working for a large commercial company, Kim attended a works party with the staff from her department. She drank 4-5 units of alcohol during the evening, but said that she was “tipsy but not drunk”. Kim recalled “suddenly feeling really drunk and out of it”. She decided she should go home, and was offered a lift by a group of colleagues (male and female). She accepted, and they left the party. However, Kim was not taken home by her colleagues, but to another house. Kim described feeling “weird, zoned out and not at all bothered about where I was being taken...I happily went into the house with them, even though my husband was expecting me to be home shortly”. She described the rest of the evening as “a blur”, but could recall fragments of events. Kim remembered being offered cocaine or amphetamines, and agreeing to take it “even though I am really quite anti-drugs...I just did what I was told”.

Kim also recalled being taken upstairs to a bedroom by one of the men, who undressed her and had sex with her. She could not recall how long she was with this man, but said that she felt “unable to protest or to think for myself...I was like a zombie...totally paralysed”. Several other men entered the bedroom and had sex with Kim during the night, and she described feeling heavy-limbed, wobbly and very sedated during this period, but felt “no distress, only confusion”. Kim does not recall how or when she went home, but awoke on her sofa the following morning. She described feeling “totally confused and shocked...I could not work out if what happened was rape or not”. Kim took her children out for the day, as she had promised and “carried on as if nothing had happened...that seems really weird now”. It was 48 hours later that she felt able to tell her partner about the assault, and to contact the police. Although an investigation was carried out, not arrests were made. She also received threats from her attackers, warning her not to tell anyone else.
Since the assault, Kim has been diagnosed with PTSD, and was forced to leave her job, as she was so frightened about meeting her colleagues again. She is currently receiving psychological therapy for her PTSD and depression, which has enabled her to “regain my confidence and get back to work”.

**CASE 3: Paula’s story: Drug-rape by a ‘friend’**

Paula, a young professional woman in her early thirties, and her flatmates, were having a drinks party at their home. Paula had invited a number of friends, all of whom she knew reasonably well. During the evening, she drank several glasses of wine, and described herself as “merry, but very much in control of my faculties”. Later in the evening, Paula began to feel “light headed, and spaced out”. She walked out into the garden for some fresh air, and was followed by a male acquaintance. He appeared concerned about her and brought her a “soft drink to help me clear my head”, which Paula drank. Following this, Paula said that she recalls little of the party, except that she was “acting quite differently to how I would normally…much more disinhibited”. The next memory Paula had was of lying in bed with this man, who was having sex with her. She described feeling an “overwhelming sense of shame…but I was not scared or threatened, I don’t know why”. The next day, when she woke, the man was still in bed with her and “acted as though I had consented…when he left he shouted ‘give me call sometime’. I was so confused”.

Paula “downplayed” the assault for six weeks, trying to convince herself that it was not rape. However, she experienced severe symptoms of PTSD, including a powerful flashback during sex with her new partner, which she described as “totally terrifying”. It was at this point that Paula went to the police, although no prosecution was undertaken. As a result of the rape, Paula described feeling that she was “soiled goods, dirty and bad for having let it happen”. She continues to receive psychotherapy
for PTSD and depression, and has moved house, as she “no longer feels safe there”. Like many other survivors, Paula was troubled by intense feelings of shame and responsibility for the assault. She described often “wondering how the spare-room bed came to be made up and whether I made the bed for him to rape me in. Why would I do that?” Paula reported a reduction in these feelings when she learned about the effects of the drugs used on thinking and behaviour and commented on how difficult it was to find professionals with any knowledge of drug-rape.

**CASE 4: Sarah’s story: Drug-rape by a business contact**

Sarah was in her mid-fifties when she was drug-raped. At the time, she was an active community development worker, and had arranged a meeting with a male work contact, at his home. The meeting proceeded as planned, after which the colleague offered her some lunch. She initially declined but he persisted, and she agreed to have a drink and some lunch before leaving. Sarah recalled eating the lunch, and feeling very tired all of a sudden. The next memory she recalled was waking in the man’s bed, to find that he had removed her clothes and was sexually assaulting her. Sarah said she reacted without thinking, pushed the man off her, put on her long coat and ran home bare-footed. She said that although this man lived in her local area, she got lost on the way home due to feeling “totally confused”. Sarah reported the crime to the police immediately, but feels that they did not know how to respond to her allegation, particularly as she was incoherent as a result of the drug effects.

The attacker was not caught, and Sarah has coped with the experience by seeking counselling, and campaigning for better police education and procedures regarding drug-rape. She said “my age and life experience helped me through this…I can’t imagine what it’s like for young women and men”.
CASE 5: Linda’s story: Drug-rape by a partner

Linda was 48 years old when she was drug-raped by her partner. She was divorced with two children, and had recently embarked on a new relationship. Linda felt that the relationship was not working, and was planning to finish with this partner. One evening they went to a Christmas party with some friends. Linda had three or four drinks early in the evening, but very soon felt extremely drunk and uncoordinated. She went upstairs to lie down and does not recall much of the evening from that point on. Linda had “a vague recollection of my partner and another man taking off my clothes and having sex with me, but it is as though the memory is being seen under water”. She believed that she was unconscious for the rest of the evening, as she just remembers “blacking out”. However, third party reports conflicted with her perceptions, as her friends reported that she was talking and laughing with people at the party. Linda was horrified to realise that she was conscious and interacting with people but had no recollection of doing so, describing it as “a total loss of control”.

The following morning, Linda awoke to a barrage of questions from her partner. He asked her if she could remember what happened the night before, and “seemed relieved when she said she could not remember much. Linda found bruises on her body, and other signs that she had been assaulted. However, she felt “too shocked and ashamed” to report the crime to the police, commenting “what sort of person has a partner who rapes then...no one would believe me”. Since the assault, Linda has ceased contact with her partner. She suffers “flashbacks”, and panic attacks in social situations, and said that she “doesn’t trust anyone now”. She has sought counselling for depression and anxiety, and continues to try to cope with the psychological consequences of the drug-rape.
CASE 6: Jenny's story: Drug-rape by a partner

Jenny was a 19-year old student, who lived with her long-term partner. Five months ago, she visited a nightclub with a group of female friends. Jenny’s friends reported later that she “disappeared” at about 1am, although the group of friends would normally stay together all evening and return home together. Jenny does not remember how she came to leave the club or who she left with, describing it as “a hole in my memory”. Her next recollection after being with her friends was standing outside a block of flats with a man, and “crying hysterically…but I didn’t know why”. She asked him who he was and where she was, and he said that he had “found her in a state” and would she like him to order her a taxi home? Jenny reported feelings “out of it, confused, really spacey and weird, kind of numb” and followed the man into his flat, “without thinking”. Following this, she “blanked out” again, and the next memory she reported was waking in the man’s bed and thinking, “this isn’t my boyfriend, who is this?” Jenny said that she “watched myself being raped, as if it were someone else and I were watching a film…no fear…no comprehension…it was really weird”. She reported the assault to the police, who investigated the case. However, even after driving around the local area with the police, she could not identify the block of flats, and no one saw whom she left the club with. As a consequence of this, and her poor memory for events, no prosecution was brought.

Jenny described feeling as though “my attacker is everyone, everywhere…I don’t know who it is so I have to mistrust everyone.” She experienced flashbacks in the months following the assault, and had sought psychosexual counselling with her partner due to the detrimental impact the assault had on their relationship. She described feeling depressed, and having panic attacks when thinking about the assault, or when out in public places, as she feared her attacker was there. Jenny described the
most difficult thing to cope with as “not knowing what happened and how I behaved...not knowing who did it...and not knowing who to turn to for help and information about the drug effects”.
APPENDIX 7: RESULTS (‘evaluative emotions’)

Descriptive data for peri and posttraumatic guilt, shame and anger

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Time-point</th>
<th>Frequency (N/29)</th>
<th>Mean (SD)</th>
<th>Range (of 0-4)</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guilt</td>
<td>Peritraumatic</td>
<td>5</td>
<td>0.45 (1.15)</td>
<td>0-4</td>
<td>0</td>
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<tr>
<td></td>
<td>Month after assault</td>
<td>15</td>
<td>1.45 (1.66)</td>
<td>0-4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Last month</td>
<td>14</td>
<td>1.03 (1.29)</td>
<td>0-4</td>
<td>0</td>
</tr>
<tr>
<td>Shame</td>
<td>Peritraumatic</td>
<td>11</td>
<td>0.72 (1.16)</td>
<td>0-4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Month after assault</td>
<td>24</td>
<td>2.24 (1.62)</td>
<td>0-4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Last month</td>
<td>20</td>
<td>1.31 (1.17)</td>
<td>0-4</td>
<td>1</td>
</tr>
<tr>
<td>Anger</td>
<td>Peritraumatic</td>
<td>4</td>
<td>0.31 (0.93)</td>
<td>0-4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Month after assault</td>
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<td>1.97 (1.68)</td>
<td>0-4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Last month</td>
<td>26</td>
<td>2.86 (1.33)</td>
<td>0-4</td>
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APPENDIX 8:
INFORMATION FOR RAPE CRISIS AND VICTIM SUPPORT

Relationship between memory (including memory loss), dissociation and symptoms of posttraumatic stress following sexual assault

We are writing to let you know about a research project being carried out through University College London’s Department of Clinical Psychology investigating the relationship between aspects of memory and symptoms of post-traumatic stress. We are writing to ask whether you would be able to offer us any support in contacting survivors (this could be done anonymously) to ask whether they would consider contributing to the project by completing some short questionnaires.

For many survivors, [Victim Support/ Rape Crisis centres and helplines] are the first, or even the only, point of contact with support services. As a national organisation dedicated to supporting survivors of crime, including rape, and an important point of contact for survivors, we would very much value your input with this project. The more women we are able to contact, the more representative and beneficial our research can be. The project and its aims are outlined below.

**UCL Research Team: Emma Russell, Chris Brewin and Val Curran**

Professor Chris Brewin is a Professor of Clinical Psychology and an expert researcher and clinician in the treatment of post-traumatic stress and working with traumatic memories. He works both clinically and in research at UCL and the Traumatic Stress Clinic, W1, a national referral centre for the treatment of post-traumatic stress. Emma Russell, MSc¹, Clinical Psychologist in Training currently works at the Traumatic Stress Clinic, London W1, specialising in psychological therapy for post-traumatic stress including work with rape survivors. Professor Valerie Curran is a Clinical Psychologist and Professor of Psychopharmacology at UCL.

The research team have experience of working both in research settings and clinically with sexual assault survivors who experience post-traumatic stress, and are sensitive to their needs and difficulties.
Background to the study: 

Rape, memory and post-traumatic stress

Research shows that sexual assault survivors frequently experience distressing symptoms of post-traumatic stress. These can include intrusive thoughts, memories and images, flashbacks as well as anxiety, panic, depression and feelings of guilt and shame. The aim of this study is to better understand what factors influence how these distressing symptoms develop. In particular, we are researching how psychological difficulties relate to the following:

- Memory for the assault (e.g. whether memory for the traumatic event is very patchy, very clear, whether the survivor experiences flashbacks, or amnesia for the whole assault, whether they experienced any ‘emotional numbing’, or dissociation, during the assault).
- The emotions experienced by victims at the time of the assault, and after the assault in response to their memories of what happened (such as fear, helplessness, shame, anger).
- How survivors understood or made sense of their traumatic experiences, and how that has affected their recovery (particularly PTSD symptoms).

Improving understanding of how certain types of traumatic memories/ memory gaps, emotions and the meaning of the assault all relate to posttraumatic stress will enable psychological interventions for these difficulties to be improved in light of the findings.

Drug rape, memory and post-traumatic stress

As part of this research project, we particularly aim to explore the psychological impact of drug-rape, a recently recognised and increasing problem in the UK. By drug-rape, we refer to sexual assaults where a drug (e.g. a sleeping pill or alcohol) is given to the victim without their consent. Survivors often have confused, patchy memory or even no memory for the assault. We are keen to improve understanding of the emotional impact of this type of assault by investigating the following questions:

- How do these drugs affect victims at the time of the assault and their subsequent memory for the rape?
- How do memories for a sexual assault differ for drug-rape victims as compared with victims who were not drugged?
How do these memories, or amnesia, impact on the psychological difficulties experienced by victims of drug-rape (particularly anxiety, depression and post-traumatic stress)?

To date, there has been very little research into the impact of drug-rape on psychological wellbeing and professionals have had little information to guide their practice in supporting survivors. We hope that developing a profile of the ways in which the drugs used in drug-rape influence memory and emotional wellbeing will be useful in the following ways:

- Informing legal and police procedures such as evidence taking, and enabling women to pursue convictions against their attackers with better guidance and support.
- Enabling counselling services to be better tailored to the needs of survivors of drug-rape.
- To raise the profile of drug-rape issues with wider support services by disseminating the findings of our research.

3. Legal and psychological support following sexual assault

We are interested in knowing whether sexual assaults, including drug-related sexual assaults, are reported to the police, and how many reach court or convictions. We will also survey what kinds of psychological/other support survivors have received and what they have found most beneficial. This information will be useful to feed back to professions and services involved with offering support to rape survivors.

What would be involved for women who choose to take part?

Taking part would involve completing five short, postal questionnaires (see enclosed), which can be returned anonymously. We also aim to follow up these questionnaires with a short (30 minute) interview with any survivors who indicate on the questionnaires that they are willing to be contacted in person by giving their name and contact details. This interview can be carried out by ‘phone, face-to-face at University College London or at another location. The questionnaires and interview both involve answering a range of questions about memories and emotions relating to the sexual assault, about symptoms of post traumatic stress, anxiety and depression, and how survivors have made sense of their traumatic experience.
**Who could contribute to this research project?**

We are inviting all women to contribute to this research project who are over the age of 18 years in the UK who have been the victim of a rape or sexual assault, including *drug-rape*. We would like to represent the experiences of as many female survivors as we can in this project.

**Confidentiality**

The total confidentiality of participants will be respected at all times. All details about participants and their experiences will remain completely confidential to the named researchers on this project, and will be used for research purposes only. No personal or identifying information will be disclosed or attached to any of the questionnaires or interviews.

**University College London Ethics Committee**

All proposals for research at UCL are reviewed by an ethics committee before they can proceed. This proposal was reviewed and agreed by the joint UCL/ UCLH committees on the ethics of human research.

**Could [Victim Support/ Rape Crisis] help us?**

We know that [Victim Support/ Rape Crisis] centre’s are extremely busy, but very much hope that your centre could contribute to the research by distributing information sheets about the project and copies of our questionnaires to women who have attended your centre in the past year or currently attend the centre. We would be able to give you copies of questionnaires in envelopes with SAE’s so that they could be given out/ posted to survivors, depending on your policy. This would also maintain client confidentiality, as we would not need to know their names or contact details unless they chose to disclose these. We would also stress in the information sheet that participation is completely voluntary and that the questionnaires can be returned anonymously.

**Timescale of the research**

We aim to collect questionnaires from survivors of sexual assault over the next 6 months and to have the research completed in May 2001.
Feedback to services about the findings of the research

The findings of the research will be disseminated widely to professionals and organisations involved with supporting survivors of sexual assault, including Victim Support. The results should be of interest and use to all those involved in offering counselling and support to survivors of sexual assault.

For more information about the study

Emma Russell will be happy to talk about the project in more detail and answer any questions that you might have about it. She can be contacted at: Sub-Department of Clinical Health Psychology, University College London, Gower Street, London WC1E. Email: Emma@labradors.demon.co.uk, or by telephone: Mobile: 07940 523 596, or at the Traumatic Stress Clinic: 020 7530 3666 (Monday-Wednesday from 9-5).

We very much hope that you will be able to assist us with this important research, and look forward to hearing from you soon.

Yours sincerely,

The Research Team

Emma Russell, MSc, Professor Val Curran, and Professor Chris Brewin
APPENDIX 9A: INFORMATION LETTER FOR PARTICIPANTS

Research Project

Memory and posttraumatic stress, flashbacks, & mood following rape and drug-rape

We are writing to you via your local Victim Support Scheme to ask if you would kindly help us with an important new research project.

Aims of this project

❖ We are a group of Clinical Psychologists at University College London researching the psychological and emotional impact of sexual assault on female survivors.
❖ We aim to find out how memory for the sexual assault relates to later symptoms of psychological distress (e.g. low mood, anxiety, flashbacks, posttraumatic stress).
❖ The project involves women who have been victims of both rape & drug-rape.
❖ The findings will be important for counselling services, which aim to help survivors talk through and cope with their memories. They will also contribute to improving the support offered to survivors, such as yourself, by the Police, legal and counselling services.

We would very much value your contribution to this research, whether the assault you experienced was drug-assisted or not. One part of this project will compare the psychological difficulties experienced by survivors who have memory loss for part or all of the assault (e.g. as a result of drug-rape or a head injury), with survivors who did not experience any memory loss. Your contribution to this research is completely voluntary and would be very much appreciated.

What will taking part involve?

❖ Completing the 4 confidential postal questionnaires enclosed. You can return these anonymously if you wish. Please also feel free to add any additional views or comments that you may have.

❖ If you would also be willing to take part in a short interview (either face-to-face or by ‘phone) with Emma, please add your name and contact details in the form at the back of the Sexual Assault Memories Questionnaire. The interview will
involve a series of questions about your memory of the rape, and the psychological impact it has had.

❖ Completing the questionnaires or the interview could bring up distressing thoughts or feelings about your memory of the rape. If this happens, the research team are available to offer advice and support. We can also offer advice about specialist rape counselling services, and support you in accessing these services where necessary. However, many women also find taking part in research, and talking through their experiences therapeutic and helpful.

Confidentiality
Your confidentiality will be respected at all times. Any information that you give us will remain completely confidential and used for research purposes only. No names or identifying information will be stored or disclosed.

If you are willing to take part in this important research, please fill in and return the questionnaires in the enclosed Stamped Addressed Envelope

If you would like further information about the study or assistance in completing the questionnaires please contact: Emma Russell, Sub-Department of Clinical Health Psychology, University College London, Gower Street, London, WC1E 6BT. Email: Emma@labradors.demon.co.uk. Telephone: 07940 523 596 (mobile).

Victim Support ‘Supportline’: Telephone: 0845 3030 900
If you would like any information or support following a sexual assault, Victim Support’s national, confidential telephone Supportline will be able to help you. They can be contacted confidentially, regardless of how long ago the assault occurred or whether it was reported to the police.

We look forward to hearing from you.

Yours sincerely,

The Research Team
Emma Russell, MSc, Clinical Psychologist in Training, UCL
Professor Valerie Curran, Professor of Psychopharmacology, UCL
Professor Chris Brewin, Professor of Clinical Psychology, UCL
APPENDIX 10: INFORMATION ABOUT SOURCES OF SUPPORT AND INFORMATION FOLLOWING RAPE AND SEXUAL ASSAULT

Listed below are the names and telephone numbers of some helplines and organisations that offer free, confidential, specialist counselling, advice and support to victims of sexual assault.

1. **Traumatic Stress Clinic**: 020 7530 3666, 73 Charlotte Street, London W1
   An NHS service, offering specialist therapy to individuals following any traumatic event, including sexual assault. Referrals must be via GP or other professional.

2. **Victim Support ‘Supportline’**: 0845 3030 900
   Victim Support offers ‘phone and face-to-face advice, counselling and support to victims of crime (there are many local branches).

3. **Women’s Aid - National Helpline**: 0272 428368
   A voluntary organisation telephone advice and helpline for victims of sexual assault, domestic violence or other traumatic event.

4. **London Women's Aid**: 020 7251 6537
   As above but a local, London service.

5. **Rape Crisis Federation**: 0115 934 8474
   Web: [www.rapecrisis.co.uk](http://www.rapecrisis.co.uk), Email: info@rapecrisis.co.uk
   This is the central number for Rape Crisis, a national organisation dedicated to offering support to survivors of sexual assault. They will be able to give you details of your local service.

6. **London Rape Crisis Centre**: 020 7837 1600

7. **Brook Advisory Young Person’s (under 25’s) Service**: 020 7708 1234
   NHS Sexual health service with doctors, nurses, health advisors and counsellors.
8. **Family Planning and Sexual Health Clinics**

**Mortimer Market Centre,** London, W1: 020 7530 5055

An NHS service, offering post-sexual assault counselling, sexual health screening and medical advice and treatment. You can refer yourself to this service, by calling and arranging an appointment with a Health Advisor (usually available within a few days).

There are sexual health clinics in most areas of the country and your local health authority will be able to advise you of your local centre.

9. **Drug Rape Trust:** 01702 317 695 (Website: http://www.drugrapetrust.org)

A national registered charity run by DI Peter Sturman and Cindy Sturman, which offers legal, forensic and other forms of advice and support to victims of drug-rape. They also offer a ‘telephone friends’ service which puts survivors in touch with other survivors, for counselling and support.

10. **Roofie Foundation:** 0800 783 2980

    Telephone advice and helpline for victims of drug-rape

    Roofie Foundation Website: http://www.faze.com/trf/

11. **National Anti-Stalking Campaign Helpline:** 01926 850089

All of these organisations provide a free service. They all adhere to strict codes of practice regarding confidentiality, and will not inform your GP or anyone else that you have contacted them for support unless you wish them to and give your consent.

You can also ask your GP to refer you to a counsellor if you do not wish to contact these organisations directly. Alternatively, a member of the research team would be able to support you in accessing any of these services.
APPENDIX 11: RESULTS

Non-significant correlations between PTSD severity score and other variables

Level of memory gaps: $r = 0.076, p = 0.696$

Intensity of peritraumatic emotion (sum): $r = 0.291, p = 0.125$

Age: $r = 0.064, p = 0.740$

Consciousness during assault: $r = -0.212, p = 0.270$

Thoughts recalled during assault: $r = 0.266, p = 0.163$

Peri-traumatic distress associated with thought: $r = -0.123, p = 0.527$

Units of Alcohol in 12 hours prior to assault: $r = 0.019, p = 0.922$

Counselling post assault (frequency): $r = 0.050, p = 0.789$

Ongoing counselling (Y/ N): $r = 0.025, p = 0.898$

Drugs taken voluntarily pre-assault: $r = -0.006, p = 0.977$
I would like to ask you some questions about your experiences, to add to the information you gave me in the questionnaire, and to hear your views in more detail. Everything you tell me today will be kept totally confidential to the research team. The main areas I would like to ask you about are:

- What happened e.g. who assaulted you, when and where
- How the drugs affected you at the time
- Your memories for the trauma since the assault
- What help and support you have received since the assault, and your views about how services could be improved

Sometimes, talking about traumatic events brings up painful feelings and thoughts. We can stop the interview at any time, if you feel distressed, or do not wish to talk about your experiences any longer. Please tell me as little or as much as you feel comfortable with. We can also talk through any issues raised during the interview if that is helpful for you.

Do you have any questions that you would like to ask me before we begin?

1. Can you tell me briefly what you recall about the assault?
   Prompt: What happened, when, where, who was the perpetrator?

2. What led you to realise that you were drug-raped? When did you first realise?
   Prompt: memories, other peoples reports, forensic tests

3. How did the drugs affect you at the time of the assault?
   Prompt: Emotionally, physically, effects on thinking, unconsciousness

4. Can you describe how the drugs affected your memory since the assault?
   Prompt: memory recovery, amnesia, clarity of memory, how fragmented

5. Did you experience flashbacks initially (month after assault)?
   Prompt: Triggers, sensory quality, content, reliving quality, emotions and thoughts associated, frequency, describe two most distressing intrusive memories

6. Do you experience flashbacks now?
   Prompt: Have they changed? How? E.g. controllability, reliving, distress, frequency, content

7. How has the memory loss affected you? What has been most difficult about it?
8. How have you coped with the memory loss since the assault?  
   *Prompt: Imagined the worst, accepted it, ruminating to try and fill in gaps, talking to others, pushing the assault out of mind*

9. [How] have your memories of the assault changed over time? What affected them?  
   *Prompt: police statement, going over events, reading about drug-rape, talking to others about the assault*

10. What has been the hardest thing to cope with about this crime?

11. What has most/least helped you through this traumatic experience?  
   *Prompt: Police handling of case, talking to friends, counselling, access to advice and information*

12. Where did you go for help, and what information and support did you receive?  
   *Prompt: E.g. counselling, Rape Crisis, police, webs-sites, friends  
   If no professional support gained – ask why not*

13. What would you advise another survivor of this crime to do to help them through it?

14. [How] do you think services could be improved to help other survivors in the future?

15. [How] has the assault affected your beliefs about yourself, others, the world and your future?

---

**Post-interview debriefing**

How do you feel after talking about the assault?  
Did this interview raise any issues that you would like to talk through with me now?  
(Also, discuss possible sources of support and counselling, including those on the information sheet)
APPENDIX 13

DESCRIPTIVE RESULTS FROM INTERVIEWS (N=12)
AND QUESTIONNAIRES (N = 29)

Below are quotes from participants. These are included in the appendix as they are not the result of rigorous qualitative analysis. However, it was deemed important to include the personal views of participants.

The worst thing about having memory loss (questionnaire and interviews)

Worst case scenarios

“Not knowing what sexual acts took place”

“Knowing that even worse things could have happened”

“Imagining the worst”

“Thinking that I might have agreed to have sex, or been compliant – this makes me feel guilty and ashamed”

“I am terrified they videoed me, and that there was a gang. I keep searching the web for videos of myself”

Fear of not being believed

“I thought I was going mad, or hallucinating”

“I feel like a fraud, asking for help with no memory…if I can’t believe in myself, how can other people”

“The police gave me the feeling they thought it was all in my head”

Uncertainty

“You don’t know if the memories will come flooding back”

“It’s the fear of the unknown that make’s you go over and over it”

“Could I have stopped it…I’ll never know?”

“You find it hard to know what really happened and what you imagined might have happened…it all gets jumbled up”

“You don’t know who did it so lose trust in everyone around you”

Other

“I feel as though my mind was raped as well as my body”
“I have had part of my life stolen from me”
“It’s the thought of being controlled in my mind like that… it sends a shiver down my spine”
“I exposed my whole self to a stranger and have no idea of what intimacy might have taken place”
“Because of the gaps, you can’t move on… you feel stuck, trying to find the memory even though you know it’s not there”

**How did you cope with the memory gaps?**
*(From the questionnaire and interviews)*

**Going over events (mentally and with others)**
Most participants (N=26) reported trying to fill in the gaps. The most common ways were:

1. Mentally replaying events (rumination)
2. Writing it down
3. Talking to friends and family
4. Counselling:
5. Returning to the scene of the crime

**Accepting the memory gaps**
Some participants also reported over time feeling that they wanted to ‘move on’ and made the following comments:

“I refused to torture myself with the gaps anymore and have accepted them now”
“I pushed the memories out of my mind”
“I have learned to accept that there are things I will never know – that was the hardest thing to accept”
“Counselling did not help – I kept seeking the impossible truth and retraumatising myself”

Being able to put the memories “out of mind” and “accept” them was viewed as an adaptive process, and an end-point of successful emotional processing.
The following quotes are drawn from the interviews (N = 12):

**Peritraumatic processing**

**Emotions**
Participants reported feeling “confused” and “numb”. Only one person interviewed reported feeling intense fear during the assault. One participant reported intense shame. All those interviewed reported intense helplessness.

**Thoughts**
Thoughts during the assault were generally confused and not about life threat. Some examples are shown below:

“I was too confused to think or feel distressed”

“Who is this person?”

“Why am I having sex with this man...he’s not my partner”

“I want it to stop but I can’t move/speak”

**Dissociation and emotional numbing**
All participants who were interviewed reported symptoms that are comparable to peritraumatic dissociation. Some examples of their comments, which are consistent with dissociative experiences, are shown below:

“I felt numb and totally cut-off from what was going on...”

“I lost all sense of time and place”

“It was as if I had no will or mind of my own”

“I felt like I was hypnotised...I would have gone along with whatever he said”

“I went along with sexual acts I know I would never normally have agreed to”

“I felt as though I was floating”

“I should have felt scared but I didn’t”

“It was as though I was watching a film through the eyes of the main character...it was not me...it was not real life”

“I was like a child... totally suggestible and innocent”

“I was robbed of my emotions”

“...like being in a bubble, separate from others around me...”

“I felt as though I was not really there”
“…zoned out…spaced out”
“I felt totally confused…too confused to feel distressed”
“Throughout the assault all I remember is an orange street-light…not the rape as I was not really there”
These quotes lend further support to the hypothesis that the effects of the drugs are similar in phenomenology to dissociation.

**Sedative and muscle relaxant effects of drugs**
Participants also commented on the sedative and muscle relaxant effects of the drugs:
“I wanted to move, but I couldn’t…my limbs were paralysed”
“I felt really drunk and wobbly, and felt like I needed to go to sleep”
“I couldn’t work out why I was so pissed – I can normally hold my drink”
“I felt really woozy, like I was under water, and my legs felt wobbly and heavy”

**Memory and drugs**
Participants described their memories as fragmented, as having no time scale, and as having large gaps. The examples below support the quantitative finding that autobiographical memory (VAM) is impaired but SAM is less impaired.

**Involuntary triggering of ‘situationally accessible memories’**
All participants interviewed described intrusive memories of the trauma. All reported experiencing involuntary intrusions, which were visual or affective, and triggered by environmental cues. Some of their examples are shown below, and are conceptually similar to descriptions of SAM:
“These drugs wipe out conventional memory…however, memory is also in other places…this is how we know and why we suffer trauma”
“Every time I hear water running in the sink I feel terrified…I now know I was raped in a car park near a drain and the sound of water brought it back to me. It’s weird, when I tried to recall it I couldn’t but strange things just trigger memories out of the blue”
“I was having sex with a new partner and suddenly it was as though a hole was ripped in my consciousness and his [the rapist] leering, menacing face appeared. I had not remembered him as threatening till then…I was terrified…and felt I could not control the content of my own mind”
“I can’t bear people standing behind me in queues…it makes me really scared and I don’t know why”

“Sometimes a certain smell or noise brings flashes of the rape to mind…pictures or clips…I feel overwhelmed with fear”

“When I have a flashback, it’s like I am taken over by it…as though it is happening right now”

Explicit (verbally accessible) memory (and lack of)

“When I first tried to recall what happened it was really hard…the flashbacks have helped me put together a set of events that make sense…they came back over time”

“I have no conscious recollection of what happened…just blackness…I thought I was unconscious but my friends saw me walking around…that really freaks me out”

“It’s like it gradually comes to you over time, but some of the memories never come back”

“My memory is full of holes, but the bits that flash back into mind are so clear”

“In therapy, I didn’t know what to talk about – I just couldn’t explain the memories to her…they were just odd pictures and feelings. I struggled to find words”

“Gradually, over time the memories can be put in the past…they stop haunting you and stop being so clear and vivid”

The content of intrusive memories

Participants described intrusive memories with the content being of very varied emotional salience. Content of intrusive memories included parts of the actual assault, and pre or post assault events. It is likely that the dose response curve of the drug, and what was consolidated determines what intrusive memories occurred, rather than the meaning of these particular events.

“There are lots of fragments…some of the club, a car, and one of him on top of me”

“I only remember the street light in the car park…I can’t remember the rape”

“The bit that haunts me is waking in his bed in pain, to find him having sex with me. When he saw I was conscious he said, “oh, shit, your awake”. That comes into mind over and over again”

“The only memory I have is of being woken by a man penetrating me. The pain woke me. I kept saying “stop” in my head, but I could not speak or move – I was helpless”
Some participants reported their intrusions as being purely affective, rather than having any clear, explicit ‘content’. For example, one participant said, “all that comes back to me is a sense of fear...when I see certain types of men...maybe they look like him, I don’t know”

**Posttraumatic appraisals**

Participants reported many negative appraisals about the rape, and their reactions. These included:

**Blame**

“I could have stopped it...it is my fault”

“I went along with it so I must be to blame...anyone else would have fought back harder”

“I should have known better than to trust X...”

“Other people will blame me because I went along with it”

“I should have watched my drink more closely”

“Did they do it to me because I did something to deserve this?”

**Trust**

“I will never be able to have sex again or a normal relationship”

“How can I ever trust men again after this...my life is ruined”

“If I can’t remember who did this to me...how can I ever trust anyone again...I’ll be thinking ‘it could be them’”

**Emotional and cognitive response to the rape**

“Normal people would feel fear. Why didn’t I?”

“I feel so ashamed of what I did...I went off with that man ...no one forced me”

“If I had been attacked it would make sense. But I was not so why didn’t I stop it happening?”

“Other people would have reacted differently, been less compliant. I felt it was me that was to blame”

“Maybe I really wanted to be with him. That’s what others will think”

“I should have tried harder to get away or stop it...I should have realised I was in danger”
Shame, dirtiness and humiliation

“I feel used”

“No one will want me now...I am soiled goods”

“He stole my sense of control...and totally humiliated me”

“I can’t tell anyone what happened or how I acted as I feel so ashamed...what will they think of me?”

Posttraumatic emotions

“You may not feel fear at the time, but you do later, when you realise what happened”

“Instead of having all the strong feelings at the time, you get them when the flashbacks come...it’s like you are experiencing it for the 1st time...as though it’s real”

“It’s when you piece it together and the final piece of the jigsaw says ‘rape’. You are terrified”

“I had a memory of the man on top of me, but I had never remembered this before...it was then that I knew for sure that I was raped – until then I had avoided thinking about it”
EMMA RUSSELL

VOLUME 2: CASE REPORTS

UNIVERSITY COLLEGE LONDON  D.CLIN.PSY

1998 - 2001
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# CASE REPORTS AND SERVICE RELATED RESEARCH

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CASE REPORT 1: ADULT MENTAL HEALTH

COGNITIVE-BEHAVIOUR THERAPY

FOR PERFECTIONISM

AND DEPRESSION
INTRODUCTION:
This report describes the brief psychological treatment of a 36 year old woman experiencing depressive symptoms which met DSM-IV criteria for major depression (APA, 1994), anxiety and a tendency towards perfectionism. Perfectionism, which has been empirically linked with a variety of psychological problems, is a stress-vulnerability factor for depression (Burns, 1980; Blatt, 1995) and may be the focus of cognitive therapy (Burns, 1980). Depressive perfectionism is often equated with self-worth, negative self-evaluation and dissatisfaction with performance (Hirsch and Hayward, 1998). Pre-treatment perfectionism has been demonstrated in the NIMH TDCRP\(^1\) (Blatt, Quinlan, Pilkonis, and Shea, 1995) to impede therapeutic outcome up to 18-months post therapy. Negative impacts of perfectionism appeared between weeks 9 and 12 of the 16-week therapy and may be attributable to ending-activated fear of failure to achieve maladaptive perfectionist expectations (Blatt, 1995). However, a moderating variable is therapeutic alliance, which has been demonstrated as central to therapeutic outcome across therapies (Horvath and Symonds, 1991; Krupnick et al, 1996). For moderate pre-therapy perfectionism, quality of therapeutic alliance contributed significantly (\(p<0.001\)) to post-therapy reductions in perfectionism and depression. Thus, a strong working alliance is of particular importance in treating this client group.

A cognitive behavioural conceptual framework (Beck, Rush, Shaw, and Emery, 1979) was used to formulate an understanding of her perfectionism and depression and the therapeutic approach taken adopted standard cognitive-behavioural and schema-focused cognitive therapy techniques (Padesky, 1994). Development of a collaborative, corrective, non-critical therapeutic relationship was central to the
therapy process, given its importance to outcome in brief cognitive therapy for the moderate perfectionism being treated.

To ensure confidentiality was protected, the names of the client, her family and certain factual details have been changed.

**REASON FOR REFERRAL:**

Helen, a 36-year old married woman, was referred for short-term cognitive therapy by her consultant psychiatrist following symptoms of low mood and anxiety. Helen was noted to have a recurrent affective disorder dating back nine years, deep-seated anxiety regarding rejection and unrealistic aims for perfection and control in her life.

**DETAILS OF ASSESSMENT AND CURRENT PROBLEMS:**

During the assessment, Helen appeared low in mood and quite anxious but expressed her motivated to undertake cognitive therapy to enhance her "coping skills" and to alleviate her depression. Helen was distressed by a belief that she was "losing control of her life" due to the impact of depression. She had recently reduced her hours of work as a part-time administrator significantly due to her depression and anxiety and was extremely anxious about her perceived poor work performance, believing her concentration and accuracy to be compromised and fearing dismissal. Evaluating herself negatively in comparison to others, Helen believed she must try harder than others to achieve any success. Three major areas of concern emerged:

1. **Perfectionism and Control**

Helen demonstrated high expectations of herself and of therapy and a premorbid, long-standing tendency towards perfectionism and control. She described a potent fear of failure, loss of control and rejection. Anxiety and depressive symptoms had
reduced Helen’s ability to meet her unrealistic self-expectations, exacerbating her anxiety and depressed mood further. During the assessment, she demonstrated strong dichotomous beliefs regarding success and failure. For example, Helen, through reduced activity, had gained 1.5 stone, perceiving this as a “total loss of control” and “total failure”. She could not identify any area of her life in which failure to achieve perfection would be acceptable, and could more readily access her past failures from memory than achievements. Helen was at this stage reluctant to relinquish her perfectionism, and saw therapy as a means to facilitate regaining control and perfectionism in her life through alleviation of her depression and anxiety. Helen scored 9 on the DAS Perfectionism Subscale (Burns, 1980) indicating moderate perfectionism.

2. Depression
Helen appeared low in mood during the assessment, commenting on her frustration and anger that she was “wasting her life by being depressed”. She described depressive symptoms of poor concentration, short-term memory problems, initial insomnia and night waking, irritability, reduced motivation, social withdrawal, weight gain and loss of libido. Her self-confidence, self-esteem and self-image were low, exacerbated by her weight gain and led to social avoidance due to a fear of negative evaluation. These symptoms emerged twelve months prior to assessment, stemming from her failure to maintain perfectionism, particularly after a promotion at work which had put Helen under additional pressure. On assessment, Helen scored 20 on the Beck Depression Inventory (BDI: Beck, Ward, Mendelson, Mock and Erbaugh, 1961), indicating moderate depression and 156 on the Dysfunctional Attitudes Scale (DAS: Weissman and Beck, 1978, cited in Williams, 1992) also indicating clinical depression (Silverman et al, 1984; Simons et al, 1984). She denied having any suicidal ideation.
3. Anxiety

Helen experienced anxiety that formed a negative reciprocal relationship with her mood, and described a number of triggers for these symptoms, including failure, loss of control and a fear of rejection and negative evaluation. She feared being sacked for making minor mistakes, being rejected by her husband (though she “knew this was irrational”) and experienced severe social anxiety and a fear of rejection consequent on making mistakes. The anxiety symptoms frequently experienced included catastrophic thinking, sweating, diarrhoea and nausea. Helen described a desire to be “more laissez faire” about life, less rigid, and less tense and anxious, though felt this could be achieved by “regaining control” rather than relinquishing it. Helen scored 16 on the Beck Anxiety Inventory (BAI) indicating moderate anxiety.

Ten-sessions of counselling four months prior to assessment had left Helen feeling “emotionally exposed and vulnerable” after unearthing but not painful emotions and issues relating to her relationship with her parents which remained unresolved. She overtly articulated her extreme anxiety that this experience should not be repeated.

FAMILY HISTORY

Helen is the third of four daughters, their respective ages being 41, 40, 36 (Helen) and 33. She described being especially close to her next eldest sister. Her mother and father, both retired, and her sisters all live close by and the family see one another frequently.

Coming from a large catholic family Helen described her upbringing as “average and middle class”. However, she described feeling “lost and unidentified” growing up within a large, busy family. Her father, a successful doctor, was frequently absent from the family home and Helen felt that her mother, a teacher, had simply “serviced”
the children but "put father first". She never felt comfortable being physically reassured by her mother and sought emotional support from her elder sister instead. Helen believed that her father never valued any of her achievements though she tried extremely hard to please him, to gain his approval and also to win her mothers attention. She enjoyed school and had close friends but later responded to feeling "pushed" by her parents to achieve academically by attaining an Oxbridge education by rebelling and failing her A'levels "on purpose". After this she attended secretarial college, though felt that within her family, which valued educational and professional achievement, she was a "failure".

Helen described her father as being an anxious man, who needed to feel in control and to achieve perfection, particularly in his career.

RELATIONSHIPS AND SOCIAL SITUATION

Helen had been married for twelve years. She described their marriage as high quality, commenting that "John understands, loves and puts up with me - he is my best friend". They were under no financial pressure. However, she demonstrated an "irrational" fear that he might leave her should she not get better, or should they argue. Notably, she avoided arguments and confrontation with John to avoid rejection. Helen expressed anxiety that John may reject her should her low libido continued though he had reassured her that this was not the case. They have two children together, Amy (10) and Nick (9) with whom Helen reported good relationships.

Helen had a small, close circle of female friends from whom she gained support. However, in the four months prior to assessment, Helen had withdrawn socially.
FORMULATION:

Beck’s cognitive model of depression (Beck et al, 1979) was used as a framework in formulating Helen’s depressive and perfectionist symptoms. In addition, cognitive literature regarding perfectionism was drawn on. This formulation is illustrated in figure 1, and the vicious maintaining cycle of Helen’s depression in figure 2. Both were developed collaboratively with Helen.

Triggering factors for current depression

Flett et al (1995a, cited in Wyatt and Gilbert, 1998) propose a diathesis-stress interaction in which pre-morbid perfectionism in combination with unmanageable life stress, triggers depression due to failure to meet her unrealistically high expectations. Helen’s first major depressive episode was after a major life event – the birth of her son, and the current episode was triggered by a promotion at work and an inability to maintain perfectionist standards due to increased demands. Hamacheck (1978) proposed that in response to failure, self and socially oriented perfectionism may lead to negative, depressive perfectionism. Helen experienced self-oriented perfectionism demonstrating unrealistic standards of self-achievement (Blatt, 1995). She also demonstrated some socially oriented perfectionism, including fear negative evaluation and rejection, performance anxiety and fear of making mistakes. This led to affirmation seeking and social avoidance. Other oriented perfectionism was evident in therapy, with Helen’s high expectations of her therapist to “make her better”.
The Cognitive Formulation of Depression and Perfectionism
(illustrated in figures 1 and 2 below)

1. Early experiences and core belief development
Cold, judgmental parenting becomes internalised during development in the form of
self-criticism, perfectionism and unlovable and worthless core beliefs or schemata
(Blatt, 1995), as exhibited by Helen. Hamacheck (1978) proposed depressive
perfectionism to come from two types of emotional environment: conditional positive
approval (academic success) and/or inconsistent approval/disapproval and Helen's
parents exhibited a combination of these characteristics. In addition, parents who are
perfectionists themselves (Helen's father in this case) may themselves have self-esteem
which is contingent on their child's success, leading to pressure to avoid
failure (Sullivan, cited in Burns, 1980). For Helen, failure became highly aversive and
anxiety-laden, and she developed low self-worth and a fear of rejection should she fail
to achieve perfection. Perfectionism and control are therefore schema-compensatory
strategies to avoid rejection, though inevitably lead to failure because standards set are
unattainably high. The central role of Helen's core beliefs unlovable and incompetent
in driving her compensatory perfectionism and subsequent depression and anxiety is
illustrated in figure 2.

2. Dysfunctional Assumptions
Negative core beliefs led Helen to develop conditional beliefs and dysfunctional
assumptions. These are illustrated in figure 1, and include "if I achieve 100% at all
times, others will not reject me" and "if people see the "real" Helen, they will reject
me". These form a negative reciprocal relationship with her schemata, reinforcing
and maintaining them through behavioural and cognitive biases such as dichotomous
thinking ("unless I achieve 100% then I am a failure"), a major vulnerability factor
for depression in perfectionists, as even small setbacks were perceived as “total failure” as there is no middle ground (Burns, 1980).

3. Critical Event
These dysfunctional assumptions became activated by Helen’s ‘failure’ to achieve her high standards at work after her promotion as this event was perceived as congruent with her negative core beliefs.

4. Negative Automatic Thoughts
The activation of Helen’s dysfunctional assumptions led to a proliferation of negative automatic thoughts, which, unlike deeper cognitive structures such as core beliefs, are conscious and repetitive. These included catastrophic thoughts (e.g. “John will leave me”) regarding failure and rejection and negative self-evaluations, causing anticipatory and performance anxiety and low mood. She also experienced frequent “should” thoughts (“I should be able to cope”). Horney (1950, cited in Wyatt and Gilbert, 1998) refer to this maladaptive cognitive style as “the tyranny of the shoulds” manifested by perfectionists due to unrealistic expectations and self-criticism and is a stress-vulnerability factor for depression (Hewitt, Flett and Ediger, 1996, cited in Hirsch and Hayward, 1998).

5. Depression and Anxiety leading to increased striving for perfectionism
The activation of this cognitive hierarchy through a critical event led to Helen’s circular symptoms of depression and anxiety, reinforcing her negative core beliefs and compounding her fear of failure and rejection and her compensatory perfectionism. The behavioural, cognitive, somatic and affective symptoms described by Helen are summarised in figure 1 and the vicious maintaining cycle in figure 2.
Helen experienced depression as meaning she was out of control, weak and a failure, serving to fuel her anxiety and impair her performance further and leading her to also experience “depression about depression”.

**Potential impact of perfectionism on therapeutic alliance formation and maintenance**

Given Helen’s potent fear of rejection, her low self-worth, perfectionism and fear of negative evaluation she was likely to exhibit a disclosure phobia, which could serve to further deprive Helen of the warmth and support she desired from others. Explicitly addressing such difficulties, formulating them collaboratively and fostering a non-critical, unconditional, collaborative therapeutic relationship and process in which disclosure could be facilitated without fear of negative evaluation was essential. Ending therapy might also activate anxiety due to perceived failure to achieve her expectations in therapy, and a fear of rejection and loss of control and therefore it’s meaning should also be explicitly addressed in therapy.
FIGURE 1: HIERARCHICAL COGNITIVE FORMULATION

(Hawton, Salkovskis, Kirk and Clark, 1989)

**Early experiences**
Received little affection as a child and emotional needs were unmet by parents
Father absent much of the time due to work and offered little praise or encouragement
Mother “put father first” so Helen had to compete for attention
Academic achievement over-valued and parents criticised failures but did not reward successes
Feelings of being "lost and unidentified" within a large family
Failure to achieve expectations of parents (e.g. Oxbridge)
History of anxiety and perfectionism within the family (father and sister)

**Core belief**
"I am incompetent and a failure" (but desires to be efficient and reliable)
"I am unlovable/ unworthy of unconditional love"
Leads to **compensatory perfectionism**

**Dysfunctional assumptions (activated by critical event e.g. job stress)**
"Unless I am perfect then I am a failure"
"If people see the "real Helen" they will reject/ disrespect me"
"To be loved and valued I must be perfect"
"If I disagree with others they will reject me"
"If I do everything 100% then people will not see I am not good enough"
"To earn love and respect I must do as much as I can to please others"

**Negative Automatic Thoughts (NAT’s)**
"I can't cope with all this work"
"I'm going to make a mistake"
"They'll reject me"
"I'm going to get the sack"
"He doesn't love me"
"I'm stupid"
"I'm boring"
"I'm ugly and fat"

DEPRESSION, ANXIETY & PERFECTIONISM INCREASE
Feeds back to reinforce negative core beliefs, dysfunctional assumptions, and NAT's

**Behavioural:** Social withdrawal, avoidance of confrontation, lowered activity levels, affirmation seeking.

**Cognitive:** Poor concentration, self-criticism, memory problems, cognitive biases: black & white thinking, catastrophising, selective abstraction, overgeneralisation.

**Affective:** Anxiety, fear of negative evaluation.

**Somatic:** Insomnia, increased appetite, weight gain, high blood pressure, panic, nausea, sweating, stomach and bowel problems, exhaustion and physical stress.
FORMULATION: FIGURE 2

The vicious cycle of perfectionism: origins and maintaining factors

**Early Experiences**

Early experiences of self as incompetent lead to vulnerability to depression, anxiety and low self-worth. Parents were critical and offered praise conditional on academic achievement. They rarely expressed physical and emotional affection to Helen and she was punished for poor achievement.

**Core belief**

"I am unlovable/unworthy" "I am incompetent and a failure"

**Depression and anxiety**

- Belief of incompetence reinforced
- Core belief of unlovable is reinforced

**Makes mistakes, schema compensation fails**

- Increases core belief of incompetence
- Fail to achieve unrealistic expectations
- Fear of rejection and loss of control

**Schema Compensation:**

**Perfectionism and control**

- Works hard to please others (work, friends, parents, husband)
- Control weight and fitness
- Avoid and hide mistakes
- Avoid confrontation and arguing
- Affirmation seeking

**Stress, anxiety (somatic, affective and psychological): Depression and Anxiety**

Due to a effort of avoiding failure, fear of making mistakes, being exposed as incompetent and being rejected and negative self-evaluations.

- Poor sleep, stomach pains, nausea, panic attacks
- Catastrophic interpretations of events
- Reduced concentration and perceived control
- Avoidance of anxiety provoking situations e.g. social occasions, work, arguments
- Appetite increases leading to weight gain

Perceptual and interpretive biases which serve to maintain the vicious cycle:

1. Black and white thinking
2. Catastrophising
3. Selective Abstraction
4. "Should" thinking
INTERVENTION:

Beck et al's (1990) recommendation that "standard" cognitive-behavioural techniques be implemented first. A 16-week cognitive-behavioural approach to intervention focusing on Helen's depression and perfectionism, incorporating both standard (Beck, 1991) and schema-focused (Padesky, 1994) approaches was therefore used. This allowed the cognitive model to be introduced including formulation, homework, thought diaries, agenda setting and behavioural experiments. Once a strong therapeutic alliance existed, schema-focused approaches were introduced to modify Helen's belief of unlovable. A highly structured therapy style was adopted, as Burns (1980) suggests that this paradoxically facilitates a stronger therapeutic alliance to be consolidated, and a more relaxed and spontaneous process and positive outcome with perfectionists such as Helen.

1. Sessions 1-6: "standard" approach

Helen’s formulation (figures 1 and 2) was used as a framework to devise therapeutic interventions to break the cycle of perfectionism, depression and anxiety. Burns (1980) proposed that cognitive therapy cannot be effective until the individual arrives at the realisation that perfectionism is maladaptive and a desire for change. Helen, who was initially unable to perceive the negative impact of forcing herself to achieve 100% all the time, and was horrified at the prospect of being "average" as this equalled rejection and failure. Socratic questioning and guided discovery led Helen to see the disadvantages of her dichotomous thinking and perfectionism and she expressed a desire to reduce her perfectionism and rigid boundaries and become more "laissez-faire". She began then to successfully identify negative automatic thoughts, emotions and to challenge them autonomously.

In identifying dysfunctional assumptions, behavioural experiments and hypotheses were devised to challenge them (Padesky, 1994) such as for the assumption "if I admit failure I will be sacked" and "if I make a mistake, my friends will reject me". Helen showed her
boss some mistakes she had made, rather than avoiding them, and found that her catastrophic fear of rejection was not founded. She began to test out new, positive interpersonal behaviours in all areas of her life, reducing her avoidance of confrontation and failure. Helen’s anxiety and depression began to reduce, with a consequent improvement in her sleep. However Helen’s positive changes were at an intellectual rather than emotional level at this stage ("I know it but I can’t feel it").

2. **Session 7: Core belief identification and schema compensation**

Helen disclosed a strong core belief of **unlovable** which was driving her perfectionism that had not been explicitly disclosed previously. Central core beliefs are closely related to affect (Padesky, 1994; Beck et al, 1967), and was accessed through Socratic questioning and the downward arrow technique targeted at “hot cognitions” (Beck, 1995) during the session. Disclosure of this belief provided a positive interpersonal experience of acceptance and unconditional support. In figure 2, the core belief **unlovable** is circled to indicate it’s centrality in Helen’s perfectionism and depression and because it was a primary target for intervention.

3. **Sessions 8-16: Challenging Dysfunctional Assumptions and Modifying Core beliefs**

Through guided questioning, Helen described the characteristics of her alternative, positive schema of **lovable** (appendix 2). The prejudice metaphor of schema maintenance (Padesky, 1994) was used to facilitate Helen’s awareness of how her negative schema influenced behaviour and was maintained through cognitive and perceptual biases which favour schema-consistent information. Helen then realised the need to actively seek schema-inconsistent information and a daily positive data log for **lovable** was commenced (Beck, 1995). An adaptive continuum (appendix 2) was rated weekly in sessions to challenge Helen’s dichotomous thinking (lovable versus unlovable, failure versus success) and monitor change. Old and new schemata were both defined in absolute
terms as recommended by Padesky (1994) and the new schema of *lovable* rated positively from 0-100% such that any change rated was positive. Helen also utilised imagery of ‘steps’ between her old and new schema, such that progress could be graded and setbacks viewed as only partial, and reversible and she did not feel total loss of control.

Behavioural experiments were used to test the modified core belief and associated assumption. Helen realised that the “safety-net” of behaviours designed to compensate for her schema, paradoxically maintained it through maladaptive thoughts and interpersonal interaction (Safran, 1990a; 1990b). As Helen’s lovable schema strengthened, her desire for control and perfectionism reduced as did her fear of confrontation, failure and rejection, and the negative cycle of depression and anxiety was broken.

**Perfectionism’s influence on therapy**

These were as predicted by Helen’s formulation. Helen initially failed to bring completed thought diaries to the sessions and was reluctant to reveal her thoughts and feelings, for fear of “not being good enough”. These fears were addressed explicitly within the context of Helen's cognitive formulation as being linked to early experiences of praise being conditional on achievement, perfectionism and fear of failure and rejection. A positive modelling experience of being “average” was offered in which Helen felt safe to reveal her imperfection. Initially, setbacks led Helen to believe she had “gone back to square one” but through guided discovery and use of her formulation she was able to understand, deal with and prevent setbacks. Helen was initially anxious about undertaking time-limited therapy, attempting to extend the number of sessions as ending activated her anticipatory anxiety and low mood associated with fear of failure. However, Helen’s dichotomous, catastrophising thinking reduced through cognitive intervention and her core belief became more positive such that ending therapy became a positive

**OUTCOME**

During the course of intervention, Helen realised the need to reduce her perfectionism and went on to successfully break the negative cycle maintaining her depression. Helen was able to see herself more positively and on a continuum such that minor flaws, mistakes and setbacks were no longer catastrophic to her self-worth. A 45% positive shift in *lovable* schema occurred in three months (as predicted by Padesky, 1994). She described an increase in self-confidence and worth, a reduction in affirmation-seeking and was again actively seeking interpersonal interaction without fear of negative evaluation or rejection should she fail to achieve perfection. Helen’s libido had increased and her sleeping was regular. She no longer believed he would leave her should they argue, feeling more “unconditionally deserving” of his love. She demonstrated more *laissez-faire* attitudes towards life such as “*it’s okay to be a bit overweight and to miss exercise class sometimes*” and “*people will still love me if I am average*”.

Helen’s depressive and anxiety symptoms were markedly reduced (BDI=6; BAI=7) suggesting significant change. Her dysfunctional assumptions had reduced to within the normal range (DAS=122) as had her perfectionism (DAS Perfection Subscale=-6). Paradoxically, as Helen regained control over her life, she also relinquished it. She was happy to remain on low dose anti-depressant medication for the near future, though this had, prior to treatment, represented an unacceptable lack of control and failure. She also described her ability to utilise the formulation in figure 2 as a useful framework for understanding, dealing with and preventing future setbacks.
DISCUSSION AND CRITICAL REVIEW:
Short-term cognitive interventions for depression and perfectionism have been criticised as ineffective due to the negative impact of perfectionism on time-limited therapy and clinical outcome (Blatt et al, 1998). Longer-term psychodynamic therapy is propose by Blatt (1995) as more effective for such cases and Seligman (1995, cited in Blatt et al, 1998) hypothesised that therapy which utilises an “arbitrary” endpoint may reduce perceived autonomy and control, and activate depression and anxiety on ending due to failure of the perfectionist to achieve their unrealistically high expectations. However, it is argued that this short-term cognitive therapy was a viable treatment for depression and perfectionism as it modelled acceptance of imperfection with disclosure being positive, rather than leading to rejection and negative evaluation (Pacht, 1984). A strong therapeutic alliance and an unconditional, non-critical approach to therapy was also beneficial. Through cognitive and schema-focused therapy approaches, Helen was able to balance her achievements rationally against her failures and be less dichotomous in thinking, and to view ending therapy as a success rather than a failure as her perfectionism was much reduced. One criticism of this case is that use of a comprehensive, validated perfectionism scale such as the Multi-Dimensional Perfectionism Scale (Hewitt and Flett, 1991) could have elucidated the characteristics of Helen’s perfectionism (e.g. socially, self or other oriented) more clearly than the short Burn’s (1980) subscale.

Finally, Guidano and Liotti (1983, cited in Greenberg and Safran, 1987) propose that core beliefs must be modified to produce enduring change. The formulation in figure 2 illustrates how Helen’s negative core belief fuelled the negative maintaining cycle of her depression and perfectionism. Until schema-modification, this cycle persisted and no stable change was facilitated. Schema modification techniques led to a reduction in schema-compensatory strategies and depression and anxiety which may have a preventive role in the future.
APPENDIX 1:

QUANTITATIVE ASSESSMENT AND OUTCOME MEASURES

**BDI** scores:  
Pre therapy: 20 (moderate)  
Post therapy: 6 (normal range)

**BAI** scores:  
Pre therapy: 16 (moderate)  
Post therapy: 7 (normal range)

**DAS**:  
Pre therapy: 156 (clinical depression)  
Post therapy: 122 (within normal range)

**DAS Perfectionism Subscale (Burns, 1980):**
Pre therapy: 9 (moderately perfectionist mindset)  
Post therapy: -6 (within the range of non-perfectionism mindset)

**Footnotes**
1: Beck Depression Inventory  
2: Beck Anxiety Inventory  
3: Dysfunctional Attitudes Scale
APPENDIX 2: ADAPTIVE CONTINUA USED IN THERAPY

What being lovable is:

- Popular
- Kind
- Listens to others
- Genuine, honest
- Interesting
- Caring
- Gets on well with others
- Self-confident, values own opinions but not arrogant
- Positive outlook on life
- Fun to be with

Mark where you, someone you think is very lovable and someone who you think is not very lovable should be on this continua.

0% lovable ___________________________________________ 100% lovable

(weekly ratings made in sessions)
REFERENCES:


CASE REPORT 2: PEOPLE WITH LEARNING DISABILITIES

BEHAVIOURAL ASSESSMENT AND INTERVENTION FOR LOW RATE SEVERE AGGRESSIVE BEHAVIOUR WITH A MAN WITH SEVERE LEARNING DISABILITIES
INTRODUCTION

This report describes the behavioural assessment and intervention for low frequency, severe, aggressive behaviour for a man with severe learning disabilities. Aggressive behaviour\(^1\), is a significant problem for people with learning disabilities (PLD) (Harris and Russell, 1989) and Qureshi and Alborz (1992) identified that 65% of adults with learning disabilities demonstrated physical attacks. Risk factors for aggressive behaviour include increasing severity of learning disability, age and/or communication impairment and low activity levels (Mansell, 1993) all of which this client experienced. Harris et al (1996) propose that aggressive behaviours arise from the interaction between multiple contingencies including immediate triggers, personal and environmental settings/contexts and that it may be maintained by potentially reinforcing consequences.

Constructional 'positive programming' behavioural approaches (LaVigna and Donnellan, 1986) which aim to develop more adaptive behavioural repertoires to replace the maladaptive behaviour, have been proven effective in reducing the frequency and severity of aggressive behaviour in PLD (Emerson, 1998; Whitaker, 1992; 1993). This conceptual framework is described in detail below and was used to structure this behavioural assessment and intervention. The implications of low rate aggression for functional analysis and behavioural intervention methodologies will be considered from both clinical and theoretical perspectives with regards to this client. Additional issues central to this case which will be considered include:

- The importance of working collaboratively with staff and being aware of and working sensitively within organisational frameworks when designing a behavioural programme.

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\(^1\) Defined by Carr et al (1990) as "violent acts directed against other people...or property"
• The relative utility of interventions that increase active versus passive self-control (Whitman, 1990) skills for individuals with severe learning disabilities who display aggressive behaviour.
• The importance of ensuring socially valid, person-centred, functionally-based interventions (Emerson, 1998).

To ensure confidentiality, the name of the client and certain factual details were changed.

REFERRAL DETAILS

Ben, a 50-year-old man with moderate to severe learning disabilities was referred to the learning disability team's clinical psychology service following long-term, severe aggressive behaviour towards staff and anxiety 'difficulties'. Ben was referred by the care manager of the locked 'challenging behaviour' unit in which he lived. The referral requested a behavioural assessment and guidelines to reduce the frequency and severity of Ben's aggressive behaviour.

BACKGROUND INFORMATION

Family History and Relationships

Ben moved into residential care at the age of nine, prior to which he lived with his parents and two siblings. He visited for a day every fortnight and had a loving relationship with his parents. Ben's parents were not closely involved in his care planning at the time of assessment. Ben's closest current relationship was with his Key Worker, whom he had a very positive and supportive relationship with.

Level of Learning Disability and Communication

Ben was previously assessed as having moderate to severe learning disabilities and could communicate using verbal language. He used simple sentences and had a
narrow vocabulary, but was clear and easily understood. Ben engaged in perseverative speech about selected subjects, including holidays and his parents, using them to engage staff in social interaction. He had difficulties labelling and expressing his emotions verbally. Ben's receptive language skills were reasonable for simple sentences and as long as information was presented in small chunks and repeated to him.

**ASSESSMENT METHODS: FUNCTIONAL ANALYSIS**

The assessment of Ben's behaviour was carried out over a two-month period. Data was gathered through multiple functional analysis methods to maximise reliability. The analysis of the *function* of Ben's aggressive behaviour through functional analysis enabled a constructional intervention to be implemented in which the "solution to the problem is the construction of [functionally equivalent] repertoires... rather than the elimination of repertoires" (Goldiamond, 1974).

Interviews with unit staff were conducted at regular intervals throughout the assessment period. Structured interview questions from Emerson (1998) and Demchack and Bossert (1996, cited in Emerson, 1998) supplemented the unstructured interviews in guiding the functional analysis (appendix 1). Finally, Willis and LaVigna's (1988) *Aide to Functional Analysis* questionnaire was administered to discriminate the function of Ben's aggression within the broad categories of escape/avoid, emotional expression, sensory, initiate social contact and obtain object/event (appendix 2). Verbal interviews were conducted with Ben though he became anxious and avoidant when prompted to discuss his own feelings or his aggressive behaviour. This avoidant style was evident from case notes, which stated that Ben had previously refused counselling to discuss emotional issues.
Care staff within the unit completed antecedent-behaviour-consequence (ABC) charts after every aggressive incident recording triggers, settings, activities, staff present and consequences. Previous ABC and incident records were also reviewed retrospectively. These approaches to assessment were practical for low-rate aggression as detailed behavioural description were obtained for each occurrence without the task being too time-consuming (Reed and Head, 1993). Staff were trained in recording behaviours in terms of 'performance' to ensure accurate recording. Direct, naturalistic observations were also conducted across a range of settings, people, activities and times of day. The aggressive behaviour was not witnessed during observations. However, valuable information regarding Ben's interaction with the environment and staff was gained which contributed to the formulation.

The detailed behavioural description of Ben's behavioural problems (aggression and self-injury in the form of handpicking are located in appendix 3.

FORMULATION

The constructional behavioural model (see Emerson et al, 1995) was used as a framework for formulating Ben's aggressive behaviour and the formulation is summarised in figure 1 (appendix 4). Figure 1 demonstrates the communicative function of Ben's aggressive behaviour as being to escape from aversive tasks/demands and to express negative emotions. The target of his aggression was the staff who placed the demand on him. However, Ben only exhibited this behavioural hierarchy 2-3 times per week when presented by staff with 'aversive' demands to which he had to comply e.g. to play sports which he disliked intensely. On other occasions (7/10 times) he would comply and engage activities/tasks as demanded. Mace, Lalli and Pinter Lalli (1991: 162) explain this difference in responding as follows:
"Demand conditions may occasion aberrant behaviour only when specific stimuli [personal and environmental background/setting conditions] combine to produce an aversive situation which may motivate escape-avoidance behaviour".

For Ben, setting conditions (multiple criticisms or reprimands, high levels of anxiety and arousal leading to self-injury) combined with risk factors (poor communication skills; lack of skills to express feelings verbally; severe learning disabilities; long-term institutionalisation and a history of anxiety) to increase the probability that Ben would become aggressive when a trigger was presented. These triggers were usually demands to engage in certain activities or tasks that Ben did not like. One counter-trigger was his key worker, as Ben never became aggressive when he was present, perhaps as he served as a safety signal, reducing Ben's anxiety and arousal to below threshold.

Clements (1992) highlights the importance of considering motivation-behaviour relationships as well as traditional environment-behaviour interactions. For example, it was clear for Ben that a high level of arousal/anxiety was a necessary setting condition for aggressive behaviour to occur. Given Ben's history of institutionalisation and subsequent difficulty in verbalising and expressing (negative) emotions, his aggressive outbursts may also have had a negative automatic reinforcement value. The functional analysis and Aide to Functional Analysis questionnaire supported this hypothesis. After long-term institutionalisation within externally controlling, restrictive environments, Ben developed an external locus of control and a deficit in active emotional self-control strategies (Whitman, 1990), which increased the probability that high levels of anger and anxiety would be expressed through aggression.

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The functional analysis also revealed that meaningful reinforcers that could be used in positive reinforcement programmes were social interaction with staff and talking about Ben's favourite topics of conversation with him. Money, which had previously been used as a positive reinforcer by staff, held no personal meaning to Ben who had no concept of its value. Also, reactive control and restraint responses to aggression had been utilised by staff with the effect of negatively reinforcing Ben's violent behaviour as the punishment of control and restraint achieved the communicative function of his aggression - to escape the demand.

INTERVENTION
An AB intervention design was followed and the interventions implemented are diagrammatically summarised in appendix 5. McBrien and Candy (1998) propose several steps to follow when implementing a behavioural programme within a service system which were followed as a framework for this intervention:

1. Presenting the assessment at a staff meeting so that it can be discussed with the whole team.
2. Close liaison with the care manager and key worker throughout assessment and intervention.
3. Ensuring that all staff members are clear as to their specific role in the intervention.
4. Regular assessment of the maintenance and accuracy of record keeping procedures on the unit and specific training in completing behavioural assessment records such as ABC charts.
5. Ensuring a positive, non-critical working alliance with staff through listening carefully to and taking into account their stresses and concerns.
6. Devising and disseminating a clear, step-by-step intervention plan to all staff.
Without these steps, it is arguable that the assessment procedure would not have been accurate and that interventions would not be implemented and maintained. Staff are also likely to perceive behaviour as less challenging if they know why it occurs (Reed, 1990) and therefore a full functional analysis was also essential for staff.

A multi-faceted behavioural approach to intervention as proposed by Willis and LaVigna (1988) was taken in which the following interventions were included:

1. Functional analysis.
2. Ecological (environmental) intervention (setting conditions and triggers).
3. Secondary (situational) management to reduce the escalation/severity of Ben's aggressive behaviour once a triggering event has occurred.
4. A constructional, positive programming (LaVigna and Donnellan, 1986) approach incorporating functional communication training (FCT) (Carr and Durand, 1985) was implemented to develop Ben's adaptive functional and active self-control skills.

**Eliminating Maladaptive Triggers**

McCool et al (1989) successfully reduced aggression in an 18-year-old man with learning disabilities by reducing demands, making the less complex and altering his daily routine. The aversive demands/triggers (e.g. to engage in sports) placed on Ben were removed and substituted for activities that were meaningful and positive to Ben. Ben did not enjoy sport but enjoyed exercise in the form of walking into town with a member of staff and this was scheduled into his timetable daily. Trigger elimination was appropriate given the specificity of the triggering events for Ben's aggression and it's low frequency.
Jones et al (1999) describe how a 'low arousal' intervention in which conflicts that increased anxiety were eliminated, led to a significant reduction in challenging behaviour. The frequency and severity of criticisms and reprimands directed by staff to Ben was reduced and a reduction in Ben's anxiety and arousal (personal setting conditions for Ben's aggression) was demonstrated behaviourally through a marked reduction in handpicking episodes (from four to one per day). Carr and Newsom (1985) also cite evidence that reducing task/demand aversiveness and offering strong positive reinforcement for engagement in task-related behaviours are successful interventions for challenging behaviour. Therefore it was decided to strongly positively reinforce Ben through conversations about his favourite topics such as holidays, whilst undertaking tasks which he found anxiety provoking, difficult and/or aversive. This led to an overall increase in engagement in tasks and activities and reduced anxiety.

**Altering Environmental and Personal Setting Conditions**

Anxiety was a major personal setting condition for Ben's aggressive behaviour. Uncertainty about what would happen next and sudden changes in Ben's timetable led him to become anxious and pictorial timetables were introduced to counter such uncertainties and anxiety (Clements, 1992). Staff also explained any changes to Ben simply and clearly.

Enriching the environment with meaningful leisure and educational activities is known to reduce rates of challenging behaviour and increase adaptive behavioural repertoires (Mansell, 1984, cited in Jones et al, 1999). Such activity schedules may provide discriminative stimuli and reinforcement for adaptive behaviour that competes with maladaptive behaviour (Mace et al, 1991). Prior to assessment, Ben's engagement in activities within the unit was low. A range of structured learning
activities was devised centred on his interests and abilities that he could engage in alone or with a staff member when in the unit. For example, Ben was encouraged to develop books with pictures and photos of his favourite subjects that were used to develop his vocabulary and task engagement, reducing the risk of future aggression.

As Willis and LaVigna's (1988) model proposes, active self-control and communication skills were developed that were functionally equivalent to Ben's aggressive behaviour, addressing the personal setting condition of a communication deficit.

Functional analysis revealed both escape and emotional expression communicative functions of Ben's aggressive behaviour towards staff, which stemmed from deficits in adaptive skills to express these needs. Psychoeducational work was conducted with Ben with his key worker through role-play and picture cards to teach him to identify, label and express emotions, first in others and then himself. This intervention aimed to enhance active emotional self-control and functional, verbal 'emotional' communication skills and was, in effect, a form of FCT. The use of a life story book (see Hussain, 1997 for details) has also been suggested as valuable in enhancing emotional processing (Clements, 1992) and was developed for Ben to supplement behavioural interventions.

Functional communication training (FCT) was undertaken with Ben to teach him an adaptive verbal escape communication to 'replace' the aggressive behaviour. Carr and Durand (1985) found that behavioural problems reduced after a taught functionally equivalent communication was taught, and empirically demonstrated the success of this approach. FCT requires a full functional analysis of behaviour and a communicative function of the behaviour to be identified. This approach is ideal for
low-rate communicative aggressive behaviour, as it does not rely on a differential reinforcement schedule, which is more appropriate for high frequency behaviours. The new communication should be successfully utilised if reinforced by obtaining the required response and/or it requires less effort than the aggressive behaviour (Carr and Durand, 1985). In Ben's case the "I want to stop now" escape communication required less effort than aggression and staff were instructed to give Ben the desired response consistently, ensuring negative reinforcement. An increasing time-delay prompting schedule (Bird et al, 1989) was used to shape this communication which was initially practised in low-arousal demand situations and generalised across new trainers, settings and activities.

**Consequences**

Staff responded to Ben's functional communication that he wished to escape from a situation by verbally acknowledging that they understood and guiding him away from the activity. Ben was also praised explicitly for using this verbal communication.

**OUTCOME**

The follow-up period was two months. The elimination of triggering events through removing the demand to engage in sports and other aversive or difficult activities and their replacement with activities meaningful to Ben (person-centred planning) led to elimination of Ben's aggressive behaviour, which did not recur. Ben's anxiety and arousal level was reduced significantly through a reduction in criticism and reprimands and uncertainty regarding his timetable. This further reduced the probability of Ben's aggression recurring as it reduced an important personal setting condition necessary for Ben's aggression, as well as his handpicking.
Ben had successfully learned to communicate his feelings and wish to leave a task verbally and staff consistently reinforced this adaptive communication through negative reinforcement (escape) and positive reinforcement (praise). His increased engagement in meaningful learning activities and interactions (from 1 to 4 hours per day) led to a reduced risk of developing further behavioural problems through enhancing his communication, activity levels and adaptive skills. Ben also gained increased control over his environment through communicating his needs verbally. Because Ben's anxiety had reduced and his interactions with staff had become more positive, his engagement in complex tasks and demands paradoxically increased although he had the verbal skills necessary to escape. The use of strong positive reinforcement through social interaction also increased Ben's engagement in difficult tasks. The intervention led to more positive interactions between staff and Ben, and increased the level to which O'Brien's 5 service accomplishments (1987, cited in Brown and Smith, 1992) of choice, respect, competence, community presence and community participation (the latter, however, was not significantly improved as Ben lived in a locked unit). Staff also found completing the life history book with Ben very positive and useful in understanding his current behaviour in light of his history.

The psychoeducational input regarding labelling and expressing emotions was to be continued as Ben remained quite emotionally avoidant and anxious at times. Given the long-term nature of Ben's anxiety, external locus of control and avoidance of expressing negative emotions, change in this area is likely to be a longer-term goal. Ben also remained anxious and sensitive about criticism and the strategy of avoiding direct, negative reprimands was continued.
DISCUSSION

Differential reinforcement of other behaviours (DRO) has been used successfully with people with learning disabilities who exhibit aggressive behaviour (Whitaker, 1993). However, because the DRO interval is a function of the frequency of the aggressive behaviour (half the interval between the target behaviours is suggested by LaVigna and Donnellan, 1986), this generally limits its use to high frequency aggressive behaviour (rate of more than 1-2 times/day (Homer and Peterson, 1980).

Additionally, because the activities/demands that Ben wished to escape were not essential to Ben’s wellbeing it seemed appropriate that these triggering events be eliminated and replaced with activities that Ben enjoyed and FCT rather than aiming for demand compliance. FCT is similar to a DRA (alternative behaviour) schedule but enables the individual to develop adaptive skills and to exercise choice and control access to reinforcers unlike a DRO schedule (Whitaker, 1993), which has been demonstrated to produce the greatest reduction in the target behaviour (Bird et al, 1989).

Furthermore, the literature does not support the contention that PLD ‘take advantage’ of their control over reinforcers after FCT which was an initial concern of staff working with Ben in conducing FCT to escape (Bird et al, 1989). Ben used his opt out communication only for the specific leisure activities which he disliked and was compliant with other demands. In fact, Ben’s increase in adaptive functioning, control, positive interaction with staff and reduced anxiety levels led to a paradoxical increase in compliance with demands and task engagement.

Whitman (1990) contends that active (internalised) self-control methods (e.g. psychoeducation regarding emotions, FCT) are more likely to produce maintained and generalised change than passive (contingency management) due to a transfer from an
external to an internal locus of control. As it is essential to assess the negative influences of current environmental factors before undertaking active self-control training (Sternfert Kroese, 1997) the functional analysis and behavioural intervention was implemented first to reduce negative environmental triggers and setting conditions. For example, high anxiety and arousal were crucial setting conditions for Ben's aggressive behaviour and their reduction was essential in reducing the probability of an outburst occurring in response to a triggering event in the future. The intervention therefore identified and modified the motivation-behaviour relationship as well as the behaviour-environment relationship as advised by Clements (1992). Self-control input was offered subsequently.

Inclusion of a quantitative informant-based pre and post intervention checklist measuring anxiety severity and symptoms would have been beneficial in detailing and in quantifying therapeutic change in Ben's anxiety. However, although anxiety/psychopathology instruments exist for PLD (e.g. the Reiss Screen for Maladaptive Behaviour\textsuperscript{2} or PIMRA\textsuperscript{3}), these were not available within the service and the reliability and validity of such measures for PLD is as yet unclear (Emerson, 1998). Therefore observed behavioural measures (e.g. handpicking rate) were utilised. In addition, the use of a quality of life outcome measure would also have been beneficial to look at the wider impact of the intervention on Ben's wellbeing.

Through behavioural approaches and working closely with staff (through McBrien and Candy's (1998) model), a small shift in Ben's care was facilitated, from an institutional, 'container' model towards the more desirable 'developer' model that is person-centred and addressed individual needs (Mansell Report, 1993), skills development and works towards meeting O'Brien's 5 accomplishments (1987). This

\textsuperscript{2}Reiss, 1988

\textsuperscript{3}PIMRA, 1998
intervention demonstrated that behavioural intervention strategies such as eliminating triggers and setting conditions could be successfully used to treat low-rate aggression and reduce the risk of recurrence by lowering anxiety and enhancing functional skills. However, due to low staff training and a rapid staff turnover in the unit (as is frequently the case in such services), it was uncertain whether these positive changes (e.g. the psychoeducational work) would be continued and maintained longer-term.

A longer-term (e.g. 6-month) follow-up and continued support for staff would have been optimal to monitor and maximise maintenance of the behavioural intervention. In addition, a future intervention aim might be to facilitate Ben becoming more able to cope with stress and criticism.

REFERENCES:


APPENDIX 1: Structured Interview questions used to determine immediate impact and contextual control of challenging behaviour

Ask each question separately for each form of challenging behaviour shown by the person:

1. What are the activities or settings in which the behaviour typically occurs?
2. What typically happens when the behaviour occurs (i.e. what do you or others typically do?)
3. Are there particular events or activities that usually or often occur just before an instance of challenging behaviour? Please describe.
4. Are there particular events or activities that you usually avoid because they typically result in challenging behaviour? Please describe.
5. Are there particular events or activities that you encourage because they DO NOT result in challenging behaviour? Please describe.
6. What does X appear to be communicating with their challenging behaviour? Please describe.
7. Does their challenging behaviour appear to be related to a specific medical condition, diet, sleep pattern, seizure activity, period of illness or pain? Please describe.
8. Does their challenging behaviour appear to be related to their mood or emotional state? Does this change following an episode of challenging behaviour? Please describe.
9. Does the behaviour appear to be influenced by environmental factors (noise, number of people in the room, lighting, music)? Please describe.
10. Does the behaviour appear to be influenced by behaviour in other settings? (e.g. relationships at home). Please describe.

APPENDIX 1 (continued): Interview questions from Emerson (1998) which elucidated Ben's aggression was negatively reinforced (escape and avoidance)

1. Socially-mediated negative reinforcement (escape or avoidance)

1. Do people respond to the behaviour by terminating interaction or activities?
2. Is the behaviour more likely in situations in which demands are placed upon the person or they are engaged in interactions or activities they appear to dislike?
3. Is the behaviour less likely when disliked interactions or activities are stopped?
4. Is the behaviour less likely in situations involving participation in preferred activities?
5. Is the behaviour more likely in those situations in which they may be asked to participate in interactions or activities they appear to dislike?

2. Negative automatic reinforcement (de-arousal)

1. Is the behaviour more likely when there is excessive external stimulation or when the individual is visibly excited or aroused?
2. Is the behaviour less likely when the individual is calm or in a quiet peaceful environment?
Appendix 2: Willis and LaVigna (1992): *Aide to Functional Analysis*

Questions which were answered 'yes' by staff suggesting escape/avoid and emotional expression functions for Ben's aggressive behaviour:

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**Escape/Avoid:**

1. Does the behaviour start when he is asked to do certain things?
2. Does this behaviour seem to start when someone is trying to get him to do something that has been requested?
3. Does this behaviour begin when a person, an event or activity starts, and stop when the same persons or activities leave or cease?
4. Does the strength of the behaviour intensify or worsen when efforts are made to "make" him/her do something?
5. Does the behaviour represent his way of protesting or of disapproving of an event, activity, or request?
6. Does this behaviour represent his way of ending an activity or event that has already begun?
7. Does the behaviour stop when he is removed from an activity/event?
8. Does the behaviour stop when easier tasks or requests are substituted?
9. Does the behaviour stop soon after the request is withdrawn?

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**Express emotion or reduce stress**

1. Does this behaviour start when he is criticised, or is given corrective feedback (e.g. "that's wrong")?
2. Does this behaviour involve strong emotion (e.g. fear/anger)?
3. Does he seem to be angry, agitated or nervous prior to starting the behaviour?
4. Once the behaviour has ceased, does he appear more relaxed or calm?

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APPENDIX 3: Behavioural Descriptions of Ben's aggression and self-injury identified during assessment

1. Aggression/ violence

Ben became anxious and frustrated when 'demanded' by staff to engage in a disliked activity e.g. sports without being allowed to opt out. Ben's aggression was manifested as follows:

1. Ben was verbally aggressive towards staff who placed the demand on him.
2. Ben then hit and kicked furniture/ objects rapidly with enough force to cause damage.
3. When staff asked Ben to calm down or move towards him he grabbed at staff, hit them with open hands and kicked them. The severity of this behaviour is such that he has caused quite extensive bruising to staff targeted in the past.

Ben was restrained by staff and taken to his room and given a sedative. This behavioural hierarchy has been targeted towards all staff (never residents, his family or other non-staff) on the unit except his key worker. These 'outbursts' occur approximately three times per week and only within the unit.

2. Self-injury: Handpicking

When Ben receives criticism or a reprimand from staff he becomes anxious and tense. This is demonstrated behaviourally as follows:

1. Ben frowns and looks at the floor.
2. Ben becomes quiet and withdrawn and will not engage in conversation when prompted.
3. Ben picks at the skin on the back of his hand using his nails which sometimes causes bleeding.
This behaviour, although not the reason for referral was revealed as important in Ben's formulation. Episodes of handpicking occurred approximately four times per day for approximately ten minutes.
APPENDIX 4, FIGURE 1: BEHAVIOURAL FORMULATION OF BEN'S AGGRESSIVE BEHAVIOUR:
SETTING CONDITIONS (PROXIMAL AND DISTAL), TRIGGERS, CONSEQUENCES, REINFORCEMENT CONTINGENCIES AND FUNCTIONS (based on Doyle et al, 1996)

ORGANISATIONAL/STAFFING SETTING CONDITIONS
- Top-down care planning (see figure 2 for details) which is not client-centred.
- Parents, who know Ben's history, are not involved in care planning (Mansell, 1993).
- High staff-turnover, low continuity of care.
- Low staff: client ratio with a severely challenging client group.
- Staff respond more to negative than positive behaviour, reinforcing it.
- Absence of Social Role Valorisation values in care planning (Wolfensberger).
- Lack of staff training and time for peer support and case discussion.
- No forum for psychological supervision for staff to explore client programmes and
  staff stresses in working with particular client.
- Weak links to multi-disciplinary team and psychological/psychiatric support.

ENVIRONMENTAL SETTING CONDITIONS
- Unsafe environment e.g. physical attacks by other clients common.
- High levels of criticism and negative feedback from staff for inappropriate
  behaviour and low levels of positive feedback.
- Events/overtures cancelled at short notice without explanation or discussion.
- Demands of task complexity exceed Ben's ability levels.
- Use of reinforcers (e.g. money) by staff that are not meaningful to Ben.
- Ben is required to fit into a structured timetable in which he has no input.
- Ben's internal/emotional state is not discussed with staff.
- Low levels of meaningful activities timetabled or engaged in.
- Behavioural cues from Ben are not understood by staff and needs remain unmet.

PERSONAL SETTING CONDITIONS
- High levels of anxiety and mood swings (daily) leading to high baseline arousal.
- Unable to verbally express emotions or label them in self and others.
- Avoidant coping style (emotions, novel or complex tasks, unpleasant tasks).
- Finds criticism and negative feedback highly anxiety provoking.
- External locus of control and reliant on Key Worker as a safety signal.
- Severe learning disability and communication difficulties.
- Difficulty coping with change, especially sudden - leads to high anxiety.
- Anxiety leads to attentional bias for threat-related information e.g. criticism.
- Low self-confidence and attentional span.

HISTORICAL SETTING CONDITIONS/RISK FACTORS
- Institutionalisation from age of 9 years - individual needs not discussed or met.
- Never encouraged to verbally express or discuss emotions, especially negative ones.
- Lack of consistent 'safety signal' led to high levels of baseline arousal and anxiety.
- Emotional difficulties managed with medication and not psychologically until now.
- Multiple losses of role, homes, key staff members, family.
- Externalised locus of control developed through controlled, institutional care.
- Parents could not cope with Ben and placed him in residential care.

Ben becomes anxious and frustrated, and begins to swear at staff. Staff continue to insist that Ben comply with the demand and reprimand him for not doing so. Ben's frustration escalates to anger and he hits staff with his open hands and kicks them.

Ben becomes anxious and frustrated, and begins to swear at staff. Staff continue to insist that Ben comply with the demand and reprimand him for not doing so. Ben's frustration escalates to anger and he hits staff with his open hands and kicks them.

Personal, environmental and organisational setting conditions remain unaltered and therefore Ben's aggression is merely 'contained' and continues to occur.
APPENDIX 5, FIGURE 2
HOW SETTING CONDITIONS INTERACT WITH A TRIGGER (ANTECEDENT) TO LEAD TO BEN'S AGGRESSIVE BEHAVIOUR TOWARDS STAFF AND HOW INTERVENTIONS TARGETED THIS SYSTEM

ENVIRONMENTAL SETTING CONDITIONS
- Avoid sudden changes to timetable and explain fully if they occur
- Make the timetable explicit to Ben to prevent anxiety.
- Increase time engaged in meaningful (to Ben) activities.
- Reduce demands and task complexity - present information appropriately for Ben's ability and communication level.
- Use of meaningful positive reinforcers (social attention, outings and praise) rather than money to engage Ben in activities and reduce demand aversiveness.
- Increase time engaged in meaningful activities/interactions.
- Avoid sudden changes in timetable and if unavoidable, explain fully to Ben.

PERSONAL SETTING CONDITIONS
- Reduce the complexity and frequency of demands placed on Ben to reduce his anxiety.
- Functional communication training to enable him to opt-out of demands and express emotions (increase self-control).
- Psychoeducational input re: labelling, identifying and expressing negative emotions to reduce the need for frequency and severity of negative automatic reinforcement through aggressive behaviour.
- Enhance emotional processing of historical events through a 'life story book'.
- Eliminate reprimands and criticism where possible
- Regular psychiatric assessments and medication reviews to help control mood and anxiety.

NEGATIVE REINFORCEMENT
* Obtained through FCT and triggering events avoided

NEGATIVE AUTOMATIC REINFORCEMENT
* Obtained through FCT and psychoeducation regarding emotions

TRIGGER/ANTECEDENT
* Demands to engage in aversive activities reduced/eliminated.
* Reprimands & criticism from staff reduced
* Activities timetabled which Ben enjoys

AGGRESSION TO STAFF
* Replaced by functional communication and emotional expression.

CONSEQUENCES
* Control and restraint no longer required.
* Aggression is eliminated.
* Interactions with staff are more positive.
* Ben has control over reinforcement (escape).
* Staff allow Ben to opt out of tasks verbally.
* Anxiety/arousal is reduced.
Case Report 4: Child

Assessment and intervention for a 10-year old boy with aggressive behavioural problems: Parent or child-focused intervention?

Word count: 3111
INTRODUCTION

This report documents the case of Jon Smith, a 10-year old Caucasian boy for assessment and intervention following concerns about his behaviour and family circumstances. Jon was engaging in swearing and fighting at school and home and his academic performance was suffering due to a lack of concentration and attention on his work. The Social Worker was also concerned that parenting problems were contributing to and exacerbating Jon's behavioural difficulties.

Jon's behavioural difficulties are understood within the conceptual framework of Patterson's (1982) Coercion Family Process model of child behaviour problems. This empirically validated model is informed by operant and social learning theories, and proposes that reinforcers within the social/ family and physical environment exacerbate and maintain aggressive behaviours. The model is one of 'reciprocal determinism', where negative parental behaviour such as criticism, reinforcement and punishment, low levels of praise, exacerbates child behavioural problems, which in turn feeds back to reinforce negative parenting strategies. Many risk factors (environmental, economic, social, intrapersonal and interpersonal: Robinson and Eyberg, 1982) demonstrated by Jon's family for coercive family interaction and the operant, cognitive and systemic processes that maintained Jon's behaviour are described in this report. The impact of these coercive interactions on Jon's emotional (self-esteem) and cognitive development (e.g. social problem solving, self-control, locus of control) is discussed.

Both child interventions (focusing on attributions, reasoning, social problem-solving, self-esteem and locus of control) and parent training focusing on problematic parental attitudes, attributions, emotional warmth, levels of criticism, use of reasoning, praise, and
reinforcement strategies have been shown to be effective in treating childhood behavioural problems that are embedded in coercive family interactions (Kazdin, 1997; 1985). A cognitive, child-focused intervention was used with Jon, and its efficacy and utility is compared and contrasted with parent training with reference to empirical outcome literature. It will be argued that a combined approach to intervention is optimal for sustainable, enduring change to occur within the family.

Finally, the relative utility of solution-focused, reflexive, circular, behavioural (linear) and Socratic questioning styles during the family assessment in reducing blame within the family and increasing positive interactions within the family and therapeutic engagement are considered.

To ensure confidentiality, the name of the client and his family, as well as other details have been changed.

**REASON FOR REFERRAL**

Jon and his family were referred for clinical psychology input by the Educational Welfare Officer following ongoing concerns regarding his behaviour at home and school. The Welfare Officer reported that Jon was impulsive, frequently started or engaged in fights with boys in class and the playground and that he used extremely antisocial language with other children and his teachers, including swearing and insults (such as racial and homophobic comments). Jon’s teacher described him as a bright but hyperactive child who was overly concerned with mistakes, making it hard for him to complete and gain a sense of achievement from his work. Jon’s behaviour was severely impairing his work and peer relationships at school, where he was begin rejected by classmates. Jon’s family
had a long history of parenting and discipline difficulties and there were concerns that Jon’s parents set unclear boundaries and failed to monitor their children sufficiently. For example, the Educational Welfare Officer commented that Jon’s 15-year old sister ran away with a boyfriend and Mr and Mrs Smith had not appeared concerned and that Jon’s elder brother, who had ADHD\(^1\) and conduct disorder, was also “out of control” behaviourally.

Jon and family were therefore assessed in an outpatient tier-2 clinical child psychology service with a view to offering an appropriate intervention.

FAMILY BACKGROUND

Jon lived on a large inner London council estate with his parents and three siblings. The estate was well known for high levels of social deprivation and youth crime. Jon’s parents were both long-term unemployed and described themselves as having a strong marriage. Jon’s mother took primary responsibility for caring for the children but both parents were equally involved in disciplining the children. Mrs Smith reported having a “chaotic childhood”, as her brother had ADHD and was very disruptive and she felt that her parents were “not very aware” of her needs. There was therefore an intergenerational pattern of ADHD; social and parenting difficulties.

Jon’s eldest sibling (Mary) had significant emotional and behavioural problems, and was currently attending a special educational unit. Jon’s elder brother, Dave, had diagnoses of ADHD and conduct disorder (DSM-IV: APA, 1994) and had been in trouble with the police and excluded from school in the past. Dave was already receiving individual input

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\(^1\) Attention Deficit Hyperactivity Disorder
from a clinical psychologist at the time of this referral. Jon commented that his brother
"beat him up and bullied him all the time". The only contact between Jon and his brother
was physical fighting, with very little verbal communication or shared activities. Tensions within the family were exacerbated by Dave’s behaviour, lack of money and overcrowding. Jon reported getting on "alright" with his father, whom he had activities such as football in common with. However, Jon’s relationship with his father was also characterised by a high degree of physical fighting and punishment.

None of Jon’s family, across generations, had stayed at school to gain academic qualifications.
Jon's family are represented on the genogram below:

- **Live in Scotland**
  - 66: Retired Builder
  - 64: Retired cleaner

- **Live in Eire**
  - 59: Retired full-time mother
  - 65: Unemployed for last 15 years

- **Married for 15 years**
  - 41: Unemployed Builder
  - 38: Full-time mother

- **Children**
  - 8: ADHD
  - 10: Peer, academic and Behavioural problems at home and school
  - 16: Diagnosis of ADHD Conduct Disorder Academic difficulties
  - 14: Behavioural problems Attends behavioural unit for education

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INITIAL ASSESSMENT

Jon and his mother were attend the two hour assessment sessions. Jon presented as a lively, bright and talkative boy but sometimes fidgeted and found it hard to concentrate in the session. Mrs Smith’s understanding of the referral was that it was to “stop Jon fighting as this behaviour got him into trouble” rather than to understand Jon’s behaviour or his parents’ role in its evolution. Jon verbally agreed with his mother. However, this was incongruent with Jon’s non-verbal behaviour as he laughed and smiled when recounting fights or confrontations at school, suggesting ambivalence towards changing his behaviour. Jon’s mother also demonstrated an inconsistent approach to the management of these behaviours. Whilst being verbally critical of Jon’s behaviour, she sometimes laughed when he described episodes of swearing and fighting at school. Jon also said his father sometimes punished and sometimes praised him for fighting, saying “if they hit you, you should hit them back” and “you’ve got to learn to stand up for yourself”. This suggested that Jon was receiving mixed messages about the acceptability of his behaviour from his parents. Mrs Smith never shouted or showed overt aggression towards Jon but was critical of him during the first assessment and showed little emotional or physical warmth or reassurance. When Jon answered questions his mother sometimes laughed at his answers or called him “no brains”, to which Jon responded with similar insults. Although these interactions were superficially humorous, they undermined Jon’s self esteem and confidence, and Jon commented, “All they ever do is put me down, they never say well done”.

Mr and Mrs Smith used physical punishments but rarely explored the roots of difficult behaviour with their children, or offered emotional support. Aspects of discipline absent from the Smith’s parenting repertoire were reasoning with Jon or explaining why certain
behaviour was unacceptable. They generally did not include discussion of or planning for a more positive alternative behaviour in their discipline, and found it difficult to set and monitor clear, appropriate behavioural boundaries. Mrs Smith reported being "stressed out" by Dave, whose behaviour was becoming more disruptive as he progressed through adolescence. The family currently engaged in few joint activities, and often avoided being together as the children often fought between themselves or with their parents.

A range of questioning approaches were used to elicit information about the family difficulties, and to try to begin to help the family think about the problem more constructively and systemically. These included the following approaches (Tomm, 1988; Letham, 1994): Linear questions such as behavioural ABC questioning ("When does Jon behave aggressively/swear", "what does he do?") were asked to gather a description of the problem behaviour, settings and triggers. However, such questions can convey blame, an emotion very much evident within this family, and did not encourage the family to consider their interactions. At this stage, Mrs Smith referred to Jon and his brother as "problem children", placing the problem within Jon. Solution focused questions were therefore utilised to reduce blame. This began with ‘problem free’ talk, which was important in helping Jon’s mother to begin to focus on Jon’s strengths as well as problems and see him as a whole rather than a ‘problem’. Exception questions were asked about when the behaviour does not occur such as "in what situations do you/ Jon keep your temper?", "are there times when Jon does not swear?", "when was the last time that Jon behaved well at school?" and "what was different about these times?". Using these questions engaged and empowered Jon’s mother, who previously felt blamed and criticised by professionals. This is a particularly client-focused, collaborative style of questioning, which is useful in engaging families. Melidonis and Bry (1995) also found
that the use of exception questions useful in reducing blame and increasing positive interaction within sessions, and in engaging families in therapy.

As suggested by Furlong and Young (1996) the issue of blame was explicitly addressed both with regards to parents feeling blamed by professionals, and who they blamed within their family. This was necessary to ensure the therapeutic alliance was not weakened by blame and so that these attributions could be collaboratively discussed and challenged. Wolpert (2000) comments that whom members blame, and the extent of the blame influences their reaction to the problem, and it is necessary to address this to maximise therapy. Circular questions were used to elicit the patterns that connect family members, ideas, feelings, behaviours, and situations. An example of circular questioning as used during the assessment is given below:

T: “What brings you all here today?”

P: I am worried about Jon’s behaviour (mother)

T: “Who else worries?”

P: Jon’s teacher

T: “Who worries the most at home?”

P: His social worker

T: “Who do you think worries the least?”

P: His father – he thinks the behaviour is OK sometimes.

T: “Do you agree Jon?”

P: Yes

T: “Jon, how would you know that your mum was worried?”

P: Because she shouts at me and tells me off
T: “And how does that make you feel?”

P: Angry and upset

T: How would you know that Jon was angry and upset?

P: He would swear and get into a fight with his brother

T: How would you react to that?

P: I would shout and tell him off…

These questions were used to facilitate awareness of the circularity and reciprocity of the interaction patterns between Jon and his parents so they could begin to approach the problem from a fresh, non-blaming perspective. Jon’s mother said that she felt less angry with Jon, and more understanding as she became aware that Jon’s behaviour influenced other family members and vice versa, rather than Jon being the cause of the problem per se. Previously, Mrs Smith had commented that “if Jon wasn’t so aggressive, this wouldn’t happen” demonstrating strong feelings of blame towards him. Thus, these assessment sessions alone began to elicit an attributional and attitudinal change within the family.

Finally, Jon said he felt unable to control his temper and moods, especially when his peers or siblings “wound him up” as they tended to do to get a reaction from him. His ability to reason with himself or problem-solve in interpersonal situations appeared to be limited at the time of assessment. He tended to act on impulse rather than thought.

AREAS OF CONCERN ARISING FROM THE ASSESSMENT

- Negative interactions and communication within the family
- Parenting skills deficits and risk factors for behavioural problems
- High levels of criticism, low levels of encouragement and praise
- Low levels of discussion and reasoning with Jon both when punished and generally
- High levels of physical punishment and fighting at school and home
- Low levels of monitoring of Jon’s activities
- Lack of emotional awareness, discussion and warmth within the family
- Mixed messages about whether violence and swearing are acceptable – unclear boundaries
- Inconsistent use of punishment and praise
- Family stress due to having another child with ADHD and conduct disorder
- Jon’s peer relationships and academic work was suffering due to his cognitive and interpersonal difficulties

**QUESTIONNAIRE MEASURES**

Jon’s teacher and his mother rated his difficulties on the *Strengths and Difficulties Questionnaire* (Goodman, 1996) (table 1 below) but there were marked discrepancies between their ratings, particularly in the area of emotional symptoms. This might be reflective of Jon’s parents’ lack of insight into Jon’s emotional difficulties.
Table 1: Strengths and Difficulties Questionnaire (SDQ: Goodman, 1996)

(Abnormal indicates a problematic score found in 10% of a community sample. Normal indicates a score found in 80% of the sample)

<table>
<thead>
<tr>
<th>Scales (maximum score)</th>
<th>Parent Questionnaire Scores</th>
<th>Teacher Questionnaire Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Deviance (40)</td>
<td>17 (16 or above is abnormal)</td>
<td>22 (16 or above is abnormal)</td>
</tr>
<tr>
<td>Conduct Problems (10)</td>
<td>6 (4 or above is abnormal)</td>
<td>7 (4 or above is abnormal)</td>
</tr>
<tr>
<td>Hyperactivity (10)</td>
<td>8 (7 or above is abnormal)</td>
<td>8 (7 or above is abnormal)</td>
</tr>
<tr>
<td>Emotional Symptoms (10)</td>
<td>2 (0-4 is normal)</td>
<td>5 (5 = borderline)</td>
</tr>
<tr>
<td>Peer Problems (10)</td>
<td>1 (0-3 is normal)</td>
<td>2 (0-3 is normal)</td>
</tr>
<tr>
<td>Prosocial (10)</td>
<td>8 (6-10 is normal)</td>
<td>5 (5 = borderline)</td>
</tr>
</tbody>
</table>

Assessment for ADHD

As Jon had a family history of ADHD a cognitive assessment was carried out to assess for features of ADHD such as impulsivity, attention or concentration difficulties, which might be contributing to his behavioural and educational difficulties. This was essential before a full formulation could be completed and an intervention plan devised. Jon was assessed on the WISC-III and showed average performance on Verbal, Performance and Full Scale IQ. His pattern of results (shown in appendix 1) and attention, concentration and behaviour during assessment were not indicative of ADHD.

FORMULATION

The difficulties within this family including Jon’s behavioural and emotional problems were formulated using Patterson’s (1982; 1991) coercion theory. Patterson proposed a social learning and operant theory model of antisocial/aggressive behaviour in which behaviour is maintained by mutually reinforcing negative interactions between the family and child. There is much evidence that aggressive behaviour is indeed operantly shaped
by reinforcement (e.g. Bandura, 1973). Patterson hypothesises that aggressive behaviours become applied contingently to increase or decrease certain interactions with family members and that this escalates over time. Wahler and Dumas (1986) propose that negative behaviour may be maintained by consistent (albeit aversive) reactions from parents, where consistency is absent for positive behaviour. This was true for Jon, who received consistent attention from parents, teachers or peers (positive reinforcement) when he got into fights or swore, and also consistently escaped criticism or tasks that invoked feelings of inadequacy or low self-esteem (negative reinforcement). Conversely, this consistency of response was not evident for achievements, which often went unnoticed at home. Indeed, Patterson (1982) lists the following reason why maladaptive behaviour occurs:

- Negative behaviours are positively or negatively reinforced
- Punishment is used inconsistently and is often physical
- Prosocial skills and achievements are often not reinforced

Jon was inconsistently punished for his problem behaviour, given mixed messages about its acceptability and he received high levels of criticism and physical punishments. These are all factors within the coercive family interaction that maintain conduct problems (Webster-Stratton, 1991). The circular relationship or ‘reciprocal determinism’ between Jon and his parents’ aggression is demonstrated in the diagram representing Jon’s family’s coercive family processes are shown in figure 1 below.

Family interaction characteristics known empirically to lead to adaptive functioning include firm, consistent, non-violent discipline, reasoning with the child, and expression of emotional warmth (Robinson and Eyberg, 1982). The use of reasoning has also been linked with development of internal locus of control (Robinson, 1985). These adaptive
characteristics were not evident Jon’s family and Jon had an external locus of control. Jon’s parents demonstrated high rates of commands without reasoning or explanation, low levels of emotional warmth to one another, frequent criticism, and inconsistent physical punishment. All these factors contributed towards the coercive cycle of interaction and Jon’s behavioural problems. Herbert (1987) also argues that childhood aggression is a reflection of the wider attitudes and child-rearing practices within the family – which were explored within the assessment setting prior to intervention.

Self-control and self-regulation have been linked to cognitive development in normal children, with aggressive children having deficits in these areas, as were evident for Jon (Robinson, 1985). Robinson (1985) therefore proposed a cognitive social learning model of antisocial behaviour. Within this model, antecedents and reinforcers of aggression also include emotional and cognitive factors such as locus of control, self-control, impulsivity, self-esteem, problem-solving deficits or anger-management processes. Jon demonstrated developmental cognitive deficits in these areas due to negative family interactions and his parenting history such as a lack of reasoning and discussion within the home.

Aggressive behaviours shaped within the context of the family have been empirically demonstrated to exacerbate and generalise from home to school (Patterson et al, 1991). This was the case for Jon, with the effect of exacerbating the negative interactions at home, and being alienated from his peers, further reducing Jon’s self-esteem and emotional wellbeing. Research suggests that a major factor in peer rejection of conduct-disordered children is their disruptive and aggressive behaviour (Dodge, 1983) and these children also have deficits in social problem solving (Rubin and Krasnor, 1983). Indeed,
Jon demonstrated peer problems, and distorted cognitions and problem solving regarding other children's intentions and motives, which exacerbated his aggressive responses.

Finally, stress, and socio-economic status are known to be important risk factors for conduct disorder and in treatment outcome (Kazdin, 1997; Webster-Stratton, 1997). Both of these factors were evident within this family, and contributed towards the family's negative cycle of interaction.

Possible sites of intervention are highlighted in figure 2 below.
FORMULATION: FIGURE 1: The coercive\textsuperscript{2} family processes which maintained Jon's emotional, cognitive and behavioural problems

(From Patterson, 1982; Webster Stratton, 1991)

Risk factors for coercive family interactions and behavioural problems:

- **Biological:** Familial history of conduct disorder and ADHD/impulsivity
- **Temperament:** Jon had a temperamental tendency towards impulsiveness
- **Socio-economic:** Low SES, crowded housing on a rough inner-city estate, unemployment
- **Parenting style:** Characterised by negative interactions, criticism, low levels of emotional warmth and reasoning with Jon, failure to praise achievements or reinforce strengths and frequent reliance on the use of physical punishments
- **Intergenerational factors:** Intergenerational history of parenting difficulties

Low levels of social support and high levels of stress (e.g. son with conduct disorder, financial concerns)

2 Coercive refers to processes which are maladaptive and focus on the negative aspects of the child such as, threats, punishment for failures in the absence of praise for successes.
FORMULATION FIGURE 2
Maintaining cycle Jon’s behaviour (sites of intervention in grey boxes)

Risk factors
Low SES and social support, critical parenting style
with low levels of reasoning, low levels of
emotional warmth in the family, inconsistent use of
praise and punishment, low levels of monitoring of
Jon, family history of ADHD
Child temperament factors e.g. impulsivity
Sibling with ADHD and conduct disorder

Assess for ADHD

Coercive family interaction
Reinforcement of negative behaviours
Low levels of praise or reasoning in interactions
Inconsistent use of punishment, and use of
physical punishments
Negative family interactions increase

Behavioural family intervention with
parents to develop parenting skills,
adaptive communication, and positive
strategies for behaviour management –
aim to improve family interaction and
facilitate Jon’s cognitive development

Jon’s Behaviour
Aggression: fighting and swearing at home.
Negative behaviour reinforced with a more
consistent response/attention than for
positive behaviours. Reinforced via
terminating other forms of criticism
Escalates over time

Offer School advice
regarding behavioural
management e.g. use of
behavioural contracts and
types of punishment

Impact at school/ with peers
Fails to complete work, never gains
sense of success, fears negative
evaluation of peers and teachers,
gets into trouble with teachers for
misbehaving, gets into fights with,
and is rejected by, peers.

Cognitive/ social intervention with Jon:
- Teach self-control strategies (e.g. anger)
- Communication skills re: feelings
- Develop sense of self-esteem and
  success
- Facilitate internal locus of control
  through developing problem-solving,
  self-instructional, anger management,
INTERVENTION

Figure 2 above highlights the negative interactions maintaining and exacerbating Jon’s behavioural problems. The possible sites of intervention are also illustrated and will be considered. Whitman (1990) contends that active (internalised) self-control methods (e.g. self-instructional training (Meichenbaum and Goodman, 1971), mental and interpersonal problem-solving, education about emotions) are more likely to produce maintained and generalised change than passive (contingency management) due to a transfer from an external to an internal locus of control. This was important for Jon, who demonstrated impulsivity and a lack of self-control due to cognitive deficits. The initial intervention focused on working with Jon to try and elicit an internal shift in control that would be transferable to the school setting. In addition, advice was given to the school on setting targets and boundaries and behavioural contracts to maximise results.

Many approaches to intervention for antisocial behaviour in children focus on the child, and assume deficits in cognitive processing and that training in interpersonal problem solving and self-control will assist in redressing the deficits (Webster-Stratton, 1991). Researchers have shown some promising outcomes for pre-adolescents who have milder problems (Lochman et al, 1984) and a cognitive intervention was undertaken with Jon. This was also necessary within the remit of the service, which specifically offered individual input for children. Jon attended 12 weekly sessions, and his parents attended two sessions to discuss behavioural management and progress. The sessions focused on the following areas and utilised cognitive behavioural children’s games from Hobday and Ollier (1998):

1. Identifying and externalising the problem. Jon identified his impulsivity ("having little men in his head that made him do things"), fighting and anger outbursts (lack of
control) as areas he would like to change. He drew a Pokémon character to represent his anger and to externalise (reduce feelings of blame) the problem. He learned to mentally visualise the Pokémon tied up as a cue to calm down and control his temper.

2. Jon explored the costs and benefits of changing his behaviour and this process of therapy itself enabled Jon to develop his reasoning and thinking skills. He identified the benefits of his behaviour as “getting a laugh out of other kids at school”, “getting out of work” “showing that he was strong” that his dad was “proud” when he “stood up for himself”. The disadvantages of changing were that his father and other children might see him as a “chicken”. He could, however, identify benefits of changing as being not getting into trouble, not being shouted at and not missing out on play at school, and these were used as a positive therapeutic framework. The factors maintaining Jon’s behaviour were reasoned through and challenged both cognitively and behaviourally (e.g. trying out acting differently with peers) with some success, especially at school.

3. A major factor maintaining Jon’s behaviour was low self-esteem. Two sessions were spent focusing on Jon’s strengths in different areas (home and school). This included thinking about how family members might view his strengths, and sharing these exercises with his parents to help them learn to reward Jon’s strengths.

4. Interventions to reduce impulsivity and enhance Jon’s problem-solving and interpersonal reasoning skills included developing thinking skills as a buffer between Jon’s strong feelings and impulsive behaviour, relaxation (bodily awareness), self-instructional training (self-talk), and education regarding how to identify his feelings.

5. Biases in attributions were challenged through Socratic questioning and Jon learned to weigh up interpersonal evidence more carefully before reacting to others.
These strategies were introduced through role-play, behavioural experiments, games and discussions. Jon engaged well in all the sessions, and tried hard at all the exercises. He often doubted his ability but responded well to praise and positive reinforcement, which helped him complete exercises and gain a sense of achievement. Challenging Jon’s distorted beliefs maintaining his behaviour early in therapy maximised his engagement in therapy.

OUTCOME

Jon’s post-therapy SDQ scores are shown below, and were slightly lower than pre-intervention.

Table 2: Post therapy scores on the SDQ (Goodman, 1996)

<table>
<thead>
<tr>
<th>Scales (maximum score)</th>
<th>Parent Qu. Scores</th>
<th>Teacher Qu. Scores</th>
<th>Pre-Post Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Deviance (40)</td>
<td>16 (abnormal)</td>
<td>16 (abnormal)</td>
<td>-6 -1</td>
</tr>
<tr>
<td>Conduct Problems (10)</td>
<td>5 (abnormal)</td>
<td>5 (abnormal)</td>
<td>-2 -1</td>
</tr>
<tr>
<td>Hyperactivity (10)</td>
<td>7 (abnormal)</td>
<td>6 (normal)</td>
<td>-2 -1</td>
</tr>
<tr>
<td>Emotional Symptoms (10)</td>
<td>2 (0-4 is normal)</td>
<td>3 (normal)</td>
<td>-2 0</td>
</tr>
<tr>
<td>Peer Problems (10)</td>
<td>1 (0-3 is normal)</td>
<td>2 (normal)</td>
<td>0 0</td>
</tr>
<tr>
<td>Prosocial (10)</td>
<td>8 (6-10 is normal)</td>
<td>6 (normal)</td>
<td>+1 0</td>
</tr>
</tbody>
</table>

Jon’s behavioural problems reduced in frequency and severity (on the SDQ) both at home and school, as he was able to utilise his new social/cognitive skills. The greatest reductions in conduct problems, hyperactivity and emotional symptoms were seen at the school setting, where Jon had the opportunity to implement his new skills with his peers. He reduced the number of fights, their severity and was concentrating better in class and completing more work successfully. This in turn was enhancing his confidence and self-
esteem. His scores within the Emotional Symptoms domain also fell to below clinical levels. The therapeutic process also offered a corrective experience to Jon, where his strengths were valued; he experienced emotional warmth, discussed his feelings, received praise for progress, and experienced the process of reasoning. Subjectively, Jon was more confident in himself and positive about his future at the end of therapy and showed some shift towards an internal locus of control.

However, Jon remained within the clinical range for scores on the SDQ, and still had significant behavioural (conduct, impulsivity) difficulties, with only a small positive shift within the home setting. Because many of the problems continued within the family setting, Jon’s parents were referred for a family-based intervention to further address these issues.

**DISCUSSION AND CRITICAL REVIEW**

Although Jon demonstrated improved cognitive processing skills, self-esteem and internal locus of control, which improved his behaviour at school, suggesting that some enduring change can be elicited through the child alone, he continued to live and develop within a difficult family environment. This might explain why Jon’s behavioural difficulties did not improve significantly within the home setting. Therefore a further family-based intervention was recommended. Jon’s parents were previously unwilling to engage in family interventions but since Jon’s intervention, a more positive working alliance had evolved and they agreed to attend future sessions. As many of the risk factors for Jon’s behavioural problems lay within the family interaction and parenting style, this was also a primary focus for intervention. The importance of parenting strategies in cognitive development and subsequent behavioural problems cannot be
underestimated. Specific examples of parent-based interventions that were to be used with Mr and Mrs Smith are described in appendix 2.

The concepts of circularity and inter-relatedness (reciprocal determinism) suggests that the system may be punctuated at any point to elicit change, but this may not be so effective if only child-focused. There may be a limit to the effectiveness of child-focused interventions as they fail to fully address the role family and environmental factors play in the development and maintenance of cognitive processing and behavioural problems. Bierman (1989) suggests that there is not sufficient outcome evidence based on behavioural measures of change to suggest that cognitive or affective change leads to significant reductions in conduct disorder. Because Jon was inextricably linked with his social and family environment, an integrated approach to assessment and intervention would have maximised positive results, and minimised blame.
REFERENCES


APPENDIX 1: ASSESSMENT FOR ADHD: THE WISC-III and WOND

Children with ADHD, often act impulsively and inappropriately, communicate poorly, fail to listen, disagree frequently, and have high rates of peer difficulties, as was the case for Jon. ADHD also shows significant rates of comorbidity with conduct disorder (DSM-IV, APA, 1994).

TEST RESULTS
Wechsler Intelligence Scale for Children - Third Edition UK (WISC-III UK)

<table>
<thead>
<tr>
<th>Verbal Scale</th>
<th>Scaled Score</th>
<th>Performance Scale</th>
<th>Scaled Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>9</td>
<td>Picture Completion</td>
<td>10</td>
</tr>
<tr>
<td>Similarities</td>
<td>14</td>
<td>Coding</td>
<td>9</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>8</td>
<td>Picture Arrangement</td>
<td>10</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>11</td>
<td>Block Design</td>
<td>9</td>
</tr>
<tr>
<td>Comprehension</td>
<td>12</td>
<td>Object Assembly</td>
<td>12</td>
</tr>
<tr>
<td>(Digit Span)</td>
<td>13</td>
<td>(Symbol Search)</td>
<td>10</td>
</tr>
<tr>
<td>(Mazes)</td>
<td></td>
<td>(Mazes)</td>
<td>18</td>
</tr>
</tbody>
</table>

Verbal IQ = 104
Performance IQ = 99

Full Scale IQ = 102
(Mean Scaled Score = 10, Range = 1-19) (Mean IQ = 100, Normal Range = 70-130)

WOND (Wechsler Objective Numerical Dimensions)

<table>
<thead>
<tr>
<th>Standard Score</th>
<th>Range(90%)</th>
<th>Percentile</th>
<th>Age Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical Operations</td>
<td>88</td>
<td>81-95</td>
<td>21</td>
</tr>
</tbody>
</table>

Jon performed within the Average range for Verbal, Performance and Full Scale IQ. The pattern of performance (good planning skills, concentration and attention) suggested that Jon’s current behavioural and educational difficulties were attributable to ADHD. For example, Jon’s errors were consistently related to task difficulty rather than random errors associated with inattention or impulsivity. In addition, his scores for mental arithmetic and written maths were not discrepant; both being average, which suggested that his ability to mentally process information was unimpaired. However, he did demonstrate some mild attentional difficulties and restlessness indicating mild difficulties with attention and impulsivity. Jon showed a lack of self-confidence when completing the tests, and his tendency to think he “could not do” a task before he had really tried. This fitted with reports from Jon’s teachers, who reported that Jon had low self-esteem.
APPENDIX 2: PARENT-FOCUSED INTERVENTIONS

Family-based interventions aim to elicit positive change in the pattern of interaction within the family via training in social problem solving, contingency management and social learning and reinforcement theory and interventions. Patterson and Fleishman (1979) propose that the disturbed social interactions within such families lead to frustration, anger and helplessness that feed back to exacerbate the problem, and that there is often poor use of contingency management which should be addressed at intervention. Another aim of intervention is to increase positive interactions between family members. Patterson's behavioural family interventions also address parental attitudes towards parenting and discipline, parental attributions (e.g. "he's always been trouble" or "there's nothing we can do") as behavioural interventions alone are often not enough. Parents learn how to use positive, non-coercive methods of behaviour management; to interact more positively as a family; to monitor their child's activities and maintain clear boundaries; to negotiate behavioural contracts with their children; to develop better social problem-solving skills. The idea is that these changes in communication and parenting elicit a different response from the child, and the interaction becomes more positive over time and facilitates cognitive development. Results from Patterson's behavioural parent training have been shown to be more effective than family-based psychotherapy (Patterson et al, 1982). Webster Stratton et al (1989ab) found that the use of video modelling also enhanced outcome further. These approaches were to be adopted with Jon's parents.

Parent-based interventions are beneficial as they enable the whole family environment to become more adaptive and supportive. Following Jon's intervention, he returned to coercive family circumstances, and found it hard to utilise his skills within this home setting, and change did not generalise within the family system. Targeting multiple sites within the system, including parents would have provided a more positive family environment for Jon to maintain and develop his self-control, and cognitive processing skills.
Elective Placement: PTSD

Post-Traumatic Stress Disorder following a minor RTA:
The impact of schemata, cognitive appraisals on the experience
of shame and PTSD symptoms
Introduction

This report describes the assessment, and cognitive-behavioural formulation and treatment plan of a 20-year old man experiencing symptoms of post-traumatic stress and depression, associated with strong feelings of shame, following a car accident (RTA) four months earlier.

PTSD was once considered a normal response to an abnormal event. However, although the severity of the stressor is correlated positively with severity and prevalence of PTSD, DSM-IV (APA, 1994) cites prevalence rates ranging from 3-58%, suggesting that there are factors other than severity of stressor that mediate PTSD reactions (Yehuda and McFarlane, 1995). For example, prospective research showing the prevalence of PTSD following rape as being 94% 1-week post-trauma, dropping to 52.4% at 2-months and 47.1% at 9-months (Foa and Rothbaum, 1989; Rothbaum et al, 1992) highlights that not everyone develops chronic PTSD. DSM-IV (APA, 1994) also stresses the role of perceived (as opposed to objective) threat to integrity in its conceptualisation of a 'stressor', emphasising the role of idiosyncratic beliefs and appraisals in PTSD.

Cognitive and information-processing models (Janoff-Bulman, 1992; Brewin et al, 1996; Foa and Kozac, 1986) have been most developed and utilised in conceptualising PTSD (Scott and Stradling, 1992). Ehlers and Clark’s (2000) cognitive model proposes that a reciprocal relationship exists between memory (recall) and cognitive appraisals of the meaning of the experience to the individual. These appraisals are related to pre-existing beliefs about self, world and others (schemata). Memory (recall) and appraisals mediate symptom control strategies (e.g. rumination, avoidance), and as a consequence PTSD symptomatology. (Ehlers and Clark’s (2000) model contends that chronic PTSD is
associated with a ‘perceived sense of current threat’ generated by the excessively negative appraisals of the traumatic event and/ or its consequences (e.g. “I am going mad”, “I will never get over this”). Foa and Riggs’s (1993) emotional processing theory similarly highlight the role of appraisal, and differentiate the impact of:

1. Pre-trauma schemata about the self, others and world
2. Memory and processing of the traumatic event (e.g. dissociation)
3. Post-traumatic interpretation and evaluation of the event, and schema change

Resick and Schnicke’s (1993) cognitive processing theory proposes that PTSD arises partly from a conflict between pre-existing beliefs and trauma-related information. Over-accommodation (where beliefs are changed excessively to accommodate the trauma) leads to negative self or world appraisals, and to an exacerbation of intrusions, avoidance and arousal. This is concordant with cognitive theories more generally, which state that dysfunctional thoughts drive negative emotional states (such as thought biases in depression: Beck et al, 1979).

Brewin et al (1996) proposed a Dual Representation model of PTSD, which aimed to assimilate other models. It proposes 2 levels of processing and memory at which trauma information is represented (see figure 1, below).
Figure 1: Brewin et al's (1996) Dual Representation theory of PTSD

PTSD symptoms

Encoding in verbally accessible memory (VAM)

Intrusive memories, cognitions and secondary emotions (shame, anger, guilt), selective recall

Contents of awareness

Encoding in situationally accessible memory (SAM)

Re-experiencing (flashbacks, dreams), and primary emotions (fear), situational arousal

Verbally Accessible Memory (VAM) contains autobiographical, explicit memory that can be deliberately retrieved and edited, and contains evaluative information regarding meaning. Situationally Accessible Memory (SAM) is perceptual, sensory and emotional in its representation of the trauma, and cannot be consciously accessed or edited but are automatically triggered by internal or external cues. SAM's, which are a parallel to Foa et al's (1989) theory of a fear network in long-term memory, are experienced as a 'reliving' of the trauma as they contain little temporal or contextual information, and are associated with peri-traumatic emotions of fear, helplessness or horror. In support of this dual model, Ehlers and Steil (1995) found that SAM's following RTA contained high levels of somatosensory and visual recollections, but few verbal thoughts. It is the VAM's or cognitive appraisals that generate shame following a trauma, as occurred in this case.

This report draws on these recent cognitive models of PTSD to conceptualise this case. The centrality of schemata, memory and post-trauma appraisals on PTSD symptomatology will be demonstrated, and implications for therapy considered. Specifically, the relative utility of imaginal exposure (Foa et al, 1989) and cognitive
restructuring (Padesky, 1994; Richards and Lovell, 1999) will be discussed. In addition, this report will draw on the theoretical and treatment literature regarding shame, and its impact on PTSD and therapy (Gilbert, 1998; 2000). Cognitive-evolutionary approaches will be compared and contrasted with cognitive-behavioral approaches for cognitive restructuring, and considered with relevance to this case. It is argued that for some individuals, secondary appraisals and affect may play a greater role in symptom maintenance than re-experiencing symptoms and SAM's per se.

To ensure confidentiality was protected, the name of the client, his family and certain factual details have been changed.

**Reason for referral**

BD was referred for psychological therapy by his GP, following a RTA four months prior to assessment. His GP reported that BD was experiencing daily flashbacks and nightmares, which also led him to experience symptoms of anxiety and panic, in addition to insomnia and night waking. BD was described as feeling “very depressed” following the RTA, and these symptoms of PTSD and depression were having an extremely deleterious effect on his daily functioning, both occupational and interpersonal. BD had become extremely socially withdrawn, ceased working, and the GP requested ‘urgent intervention’ to prevent these difficulties escalating further.

**ASSESSMENT**

**Behaviour during assessment**

BD presented as extremely anxious, tense and depressed during the first assessment session, and missed two of our subsequent appointments. He found it extremely difficult
to talk about the accident, its impact on his life and psychological wellbeing. He told me
that, prior to the assessment, he had not felt able to talk to talk to anyone about his
difficulties, because he felt “ashamed of being so weak, and not being able to cope”
following the accident. When directly questioned about his PTSD symptoms, and current
psychological difficulties, BD sat in a lowered posture, with his gaze averted towards the
ground, and made almost no eye contact. This posturing is termed by Gilbert (1998) as
“shame posturing”. This was in contrast to when he was describing his success before the
RTA, when he would sit upright, speak confidently, and make direct eye contact, and
appear quite proud. Gilbert (1998) has termed this a “pride compensation” (or schema
compensation) for shame.

Account of traumatic event
BD was driving around a bend, when he saw a red car coming straight towards him on
the wrong side of the road. He recalled seeing the driver’s eyes looking at him, and a
brief moment of intense fear. The other driver tried to swerve around him, but the cars
collided. BD’s car was stationary at the time of the impact and the other car hit the front
driver’s side of his car. BD recalled thinking, “I could have been killed” in the immediate
aftermath of the accident. Afterwards, BD described lying on the pavement, surrounded
by people, and feeling “confused, scared and very angry” with the other driver. He was
angry that the driver did not ask him how he was and said that he “blames him for putting
me out of action, and ruining my life”. When asked, BD did not report any feelings of
embarrassment, humiliation or shame at the time of the RTA.

BD received hospital treatment the following day, for a cracked rib, bruised windpipe and
whiplash injuries, and was vindicated of any responsibility for the accident. During the
assessment, he repeatedly commented, "the accident wasn't that bad, why aren't I over it yet? Why has it affected me so badly?" and "I should be over this by now".

Medical and psychiatric Information
BD reported no pre-morbid psychiatric or medical difficulties. Since the accident, he has suffered from headaches and shoulder pain due to his injuries, and has received physiotherapy for these problems. He also suffered damage to his windpipe during the accident, which has led BD to experience intermittent difficulties with breathing. At the time of assessment, he reported no pre-morbid or current drug or alcohol abuse. BD was taking an SSRI anti-depressant. He reported no traumatic events in his life, prior to the car accident.

Current psychological difficulties:
Depression
BD reported symptoms of severe depression, including low mood, poor concentration, reduced motivation to engage in previously enjoyable activities, increased appetite, sleep onset difficulties and night waking, social withdrawal, and feelings of worthlessness. At the time of assessment, he met DSM-IV criteria for Major Depressive Disorder (MDD: APA, 1994). BD’s injuries had rendered him unable to exercise, leading him to gain weight, and feel “disgusted and degraded” with his appearance. He said that he was “ashamed” of his body, and often thought that others (men) would “look down” on him as a result of his appearance. To cope with these feelings, BD withdrew from all occupational and social contact, and ended the long-term relationship with his partner, commenting, “I am not good enough for her now, I’m disgusting and a failure”. The more withdrawn BD became, the more he engaged in ruminative appraisals about the
impact of the RTA, leading him to become more depressed and ashamed of “not being able to cope”.

Post-Traumatic Stress Disorder

BD met diagnostic criteria for PTSD, as assessed by the Clinician Administered PTSD Scale (CAPS: Blake et al, 1990; 1995). The CAPS is a structured clinical interview that assesses the full range of PTSD symptoms as outlined in DSM-IV. It has excellent sensitivity and specificity, and is psychometrically robust (van der Kolk et al, 1996). BD reported frequent nightmares in which he re-experienced the crash and awoke “shaking and sweating”. He experienced daily intrusive images of the accident, triggered by external (seeing a similar car) cues, which were associated with a feeling that he was ‘reliving’ the crash, and with intense fear. He also reported an exaggerated startle response, increased irritability, and physiological arousal in response to reminders of the crash. BD had developed a phobia of driving or travelling as a passenger, and was “ashamed that I can’t drive my own car any more, and that I am not over this by now”. He also avoided the site of the crash, and tried to suppress thoughts about the RTA.

Post-traumatic cognitive appraisals

BD experienced considerable shame and anger following the RTA. He described feeling ashamed of “not being able to cope, and being a failure”, of being overweight, and often said, “I used to have it all, now I’m nothing”. He said that he found it very difficult to talk about his difficulties, as he was so “embarrassed” because “I should be able to get over this, I’ve lost face”. He described having let himself down, and said that he often feared negative evaluation (FNE) by others, and so rarely went out. BD said he thought other men were thinking “he used to have it all, now he’s lost it, he’s so pathetic”.

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BD also felt very angry towards the other driver for “wrecking my life”, and at himself for “being so useless”. He said that the FNE led him to feel “paranoid” other men were looking down on him, and led him to feel intense anger, and attack other men. BD also attacked himself for being “such a loser”, by “smashing up” his room, and burning his designer clothes, which were too small. BD said that prior to the RTA, he was a “gentle bloke”, and he was very distressed and ashamed of his behaviour. These negative appraisals led BD to fear losing control, and so he withdrew socially to avoid feelings of anger and shame.

Pre-trauma: Family and personal background

BD was born and raised in a “working class made good” family in London, and still lived in the family home. He described himself as a “happy but rebellious child” who “wanted for nothing” and “had all the latest gear”. He described getting on well with his two younger brothers, and said that his family were all “sociable people, who valued money, success, status and hard work”. BD described his late grandfather as his “idol and role model” as he taught him the “importance of self-respect and being respected by others” and that “such respect comes from being the best, and having money and status”. He said that his parents, a cab driver and teacher, were very conscious of their status in the community and that they “wore their success on their sleeve”. BD described his mother as “supportive”, and his father as “solid, but not very open” and said that he got along well with them both.

BD was successful at school, gaining GCSE’s and coaching sports. He said that he always got along better with females, as there was “no competition”. He left school at 16,
to “make money and be successful” and became a very successful and wealthy DJ. BD described spending money on designer clothes, and said that he had “no time or respect for failures”. BD could not identify any area in which he had failed or how he coped with failure. He was in a close, long-term relationship from the age of 15, until the RTA, which he said “shattered my life”. He ceased working and ended the relationship with his partner, commenting “I’m not good enough for her now”.

Formulation

The inter-relationship between BD’s symptoms and behaviours are summarised in figure 2, below. The diagram shows clearly the centrality of BD’s beliefs, negative appraisals and the shame elicited by these in the maintenance of his PTSD.
FORMULATION:

Early Experiences*:
Status and money valued within family
Pressure to work hard, and succeed (by attaining high social status and wealth)
No experience of coping with failure

Dichotomous beliefs:

- "Success = money and admiration from others"
- "I must be successful to be valued"
- "Unless I am the best, I am nothing"
- "People are either inferior or superior"

Precipitating event:

Road traffic accident

Unable to process memory due to overwhelming fear

PTSD Intrusions 5. & 6.

Avoidance

2. "I am not coping" *
   "I am weak"

4. Shame
   (Internalised & externalised)
   (about body, coping)

Perceived negative evaluation

Fear of negative evaluation

Social withdrawal

3. Anger

Attacks self (smashes up bedroom)
Attacks others (fights with men)
Fears will lose control/ be arrested

1. Depression

Physical injuries

Unable to exercise

Weight gain 1.

*Activation of beliefs e.g.
"Others will not admire me, therefore I am a failure"
BD’s formulation shows the relationship between schemata, avoidance, intrusions, and post-traumatic appraisals in the formation and maintenance of PTSD. BD’s presentation can be conceptually understood within the context of Brewin et al.’s (1996) Dual Representation model and Ehlers and Clark’s (2000) cognitive model of PTSD.

BD’s upbringing led him to value material success and status, and to be very conscious of his ‘image’ in the eyes of others, and to avoid failure. He believed that “unless you’re a success, you’re a failure” and “If you’re not superior, you’re inferior”. These beliefs generated frequent social rank comparisons between himself and others, known to be common to depression-prone individuals (Gilbert, 2000). The accident, in conjunction with his weight gain and dichotomous beliefs regarding success, led him to ‘lose status’ (falling from top-dog to under-dog: Greenberg, Rice and Elliott, 1993). As a result, he experienced intense shame, socially withdrew, felt unable to continue with his job, and became very depressed at his loss of status. This then generated further negative cognitive appraisals that maintained his PTSD symptoms (see below) such as “I should be able to cope”, “my reactions mean I am a failure”. Ehlers and Clark (2000) show this to be a common problem in chronic PTSD. BD also engaged in depressive cognitive biases (Beck et al, 1979), including “should” thinking, overgeneralisation, black-and-white thinking and catastrophising, which exacerbated his shame and depression.

BD attempted to suppress unpleasant SAM’s by avoiding external (e.g. car travel) or internal cues/ triggers. Cognitive theorists (Ehlers and Steil, 1995) have shown that the level of distress associated with intrusions mediates avoidance of contextual memory cues (both external and intrapsychic). This in turn inhibits activation of SAM’s and associated affect, which prevents adaptive emotional processing (Rachman, 1980) and
integration of the experience into existing schemata (Horowitz, 1986; Brewin et al, 1996). Brewin et al (1996) term this ‘premature inhibition of processing’, which leads to a chronic cycle of intrusions and avoidance, as occurred with BD. Recent research with RTA victims (Ehlers and Steil, 1995) demonstrated that the relationship between intrusion-related distress and avoidance was mediated by negative cognitive appraisals, rather than the frequency or content of flashbacks per se. The formulation for BD supports this finding. When he experienced an intrusion of the RTA, this activated his dichotomous beliefs about success and failure, which generated negative self-appraisals such as “my fear at these flashbacks means I a weak and a failure” or “I will never get over this, I have lost everything”. Thus, it was not the fear-based SAM itself, but the cognitive appraisal, secondary affect (shame) and meaning of the RTA (loss of status and failure) that maintained BD’s reciprocal cycle of avoidance and intrusion.

In a longitudinal study victims of violent crime, Brewin et al (2000) showed that intense anger and shame significantly predicted PTSD symptomatology. BD experienced both anger and shame (internal and external) associated with his cognitive appraisals of the RTA. Shame is associated with loss of social attractiveness and status (Gilbert, Price and Allan, 1995). BD experienced what Gilbert (1998) terms ‘internal shame’, a failure to meet his internal schemata/ standards of success and status learned as a child. BD’s beliefs about social roles and success were dichotomous (success or failure; superior or inferior; best or worst), such that his reaction to the RTA signalled a ‘total failure’ and loss of status. Internal shame is highly correlated with external shame (Gilbert, 1998), which refers to fear of being judged negatively, as subordinate, or a failure by others. BD experienced this with other men, as he engaged in ‘mind-reading’, assuming that they would judge him by his own high standards (Gilbert, 2000). Gilbert (1998) describes
shame as 'coordinating' affect, particularly self-disgust, anger (attacking self and others) and anxiety, all of which BD experienced as a result of his intrusions and appraisals.

**INTERVENTION PLAN**

**The impact of shame on the therapeutic relationship and process**

Shame leads to defensiveness and attacking behaviour, and to withdrawal and concealment due to fear of negative evaluation (Lewis, 1992; Gilbert, Price and Allan, 1995). Indeed, BD found it extremely hard to disclose his thoughts and feelings about the RTA for this reason. Gilbert (2000) suggests that therapeutic neutrality should therefore be avoided, as it can intensify patients' fears of negative evaluation. Instead, 'active, affective engagement' and warmth are recommended as central to the development of a strong therapeutic alliance in which BD would feel safe to disclose. However, even within such a relationship, patients can disengage from therapy. It would therefore be important to explicitly discuss and problem-solve these difficulties in therapy, particularly that rapid disclosure may lead to 're-shaming' (Gilbert, 2000). The following 'shame-related' questions could be used to collaboratively problem-solve any difficulties with disclosure:

"What would help you to feel comfortable talking about your feelings and worries?"

"What makes it hard to talk about how the RTA has affected you?"

"You are describing symptoms of PTSD, which are common following traumatic events"

"It is normal for all of us to care about, and worry about what others think of us"

The hypothesised intervention plan is described below (and represented numerically at relevant points on the formulation diagram): Stages 1-3 represent psychoeducation and
coping strategies, whilst stages 4-6 represent interventions to facilitate emotional/mem
ory processing and belief change.

1. Increase activity levels

The cycle of low activity, weight gain, shame and depression could be broken through a graded activity schedule, of exercise and social activity with trusted friends.

2. Education about cause and course of PTSD

Education about the cause and course of PTSD, the problems of avoidance, and the benefits of treatment would enable BD to normalise his experience, and would reduce negative cognitive appraisals such as “my flashbacks meant that I am weak, and a failure”. This would reduce the distress caused by the flashbacks and therefore lead to a reduction in avoidant coping strategies (Ehlers and Steil, 1995) by reducing the shame, and associated feelings of disgust, and anger with himself. It would be important to highlight the centrality of prior beliefs, rather than the severity of stressor, in PTSD. Again, this would normalise BD’s experience and reduce shame appraisals such as “it was such a small accident, I must be really pathetic, going mad to have reacted this way”.

3. Anger management

BD engaged in a great deal of ‘mind-reading’ (“they’re laughing at me”, “they think I’m a loser”), which was usually negative and derogatory. His sense of shame, and associated defensiveness led him to misread interpersonal communications and behaviours. For example, he might see a man looking at him and think, “he’s thinking ‘how could he let himself get into that state, loser’”. This would lead him to feel
ashamed, and self-conscious, and to act impulsively by attacking. Anger management
could be utilised to enable BD to understand the link between his behaviour, thoughts
and feelings, to enhance his problem-solving skills, and to consider alternative,
adaptive interpersonal appraisals. Reducing the aggressive responses would also
reduce shame associated with perceived loss of control and negative evaluation, and
might reduce social withdrawal, thus also alleviating depressive symptoms too.

4. Cognitive therapy and restructuring for dichotomous beliefs about status, success,
and failure, and negative post-traumatic appraisals

Dual representation theory of PTSD (1996), and Ehlers and Clark’s (2000) cognitive
model both propose a two-stranded approach to treatment. Cognitive strategies
(Padesky, 1994; Beck, 1967; 76) are employed to address VAM’s (figure 1), or
appraisals. Identification of pre-existing schemata and assumptions, and their
implications in light of the event is essential. Core beliefs are closely related to affect
(Padesky, 1994; Beck et al, 1967), and BD’s could be accessed through Socratic
questioning and the downward arrow technique targeted at “hot cognitions” (Beck,
1995). At the time of assessment, BD demonstrated a range of interpersonal and
intrapersonal dichotomous assumptions (“unless I am the best, I am nothing”), but
the underlying self-beliefs (e.g. “I am inadequate”) were unclear. Once the belief is
identified, schema-focused approaches, such as the prejudice model or adaptive
continuum technique (Padesky, 1994) can be used to counter dichotomous thinking
(e.g. failure versus success). Old and new schemata should be defined in absolute
terms as recommended by Padesky (1994) and the new schema (e.g. good enough)
rated positively from 0-100% such that any change rated was positive. Behavioural
experiments and evidence can be used to develop evidence for a less dichotomous view of the self.

This process would enable BD to accommodate his experience, but to reduce over-accommodation (complete belief change) (Resick and Schnicke, 1993), and would reduce negative appraisals associated with feelings of shame, anger and high levels of distress. Cognitive restructuring would reduce the distress associated with intrusions, as their meaning would be more benign, therefore enabling avoidance to be reduced and imaginal exposure undertaken (Foa et al, 1989). Ehlers and Clark (2000) propose that cognitive restructuring is essential, as otherwise, exposure therapy for SAM’s can lead to vicarious strengthening of negative appraisals.

5. Prolonged imaginal exposure to the traumatic memories of the RTA

SAM’s are not addressed by cognitive restructuring, and are targeted behaviourally (Brewin et al, 1996). These automatically activated memories were associated with strong feelings of fear for BD (a peri-traumatic emotion) and Brewin et al (1996) propose these emotions may begin to reduce following VAM (belief) modification, but that exposure may also be necessary. It is hypothesised from BD’s formulation, that cognitive restructuring would eliminate the negative meaning of the SAM’s, reduce threat and fear, and potentially reduce avoidance, resulting in completed emotional processing. However, was this not the case, imaginal exposure should then be employed. Imaginal exposure has been shown to be extremely effective in the treatment of PTSD (Richards and Lovell, 1999), and can be implemented after, or in tandem with, cognitive restructuring. Activation of SAM’s (flashback memories) in therapy by asking BD to talk through the memories, in detail and in the present tense,
would facilitate fear habituation and emotional processing of the memory, which were arrested through avoidance.

7. Behavioural exposure for driving phobia

If the fear and avoidance of driving remains after the above steps have been taken, a graded exposure programme (see Hawton et al., 1989) could be implemented, as being able to drive was a very important aim for BD’s sense of self-esteem and autonomy.

Discussion and critical review

This case report supports Brewin et al.’s (1996) conceptualisation of dual processing in memory following trauma, and the centrality of schemata and post-trauma appraisals in mediating PTSD onset and maintenance (as stated by Ehlers and Clark, 2000). This also points to the utility of using both behavioural and cognitive (schema-focused) techniques in the treatment of PTSD (Richards and Lovell, 1999). BD also highlights the importance of subjective perceptions of a traumatic event, rather than the objective severity of the stressor, as a seemingly minor accident led to extreme feelings of shame, and PTSD.

Cognitive evolutionary psychology has theorised that there are limits to the efficacy of cognitive-behavioural approaches, which focus on the use of logic and reasoning to alter maladaptive thinking-styles (Gilbert, 2000). Gilbert suggests that whilst cognitive therapy targets explicit, intellectual, evaluative processes (VAM’s), it may not sufficiently alter the affective, representational factors that also influence the shame response (akin to SAM’s: Power and Dalgleish, 1997, cited in Gilbert, 2000). Gilbert (2000) proposes the existence of multiple social mentalities, which differ from schemata in that they are interpersonal and ‘role seeking’. Gilbert suggests that shame-prone individuals may
experience a conflict (akin to an interpersonal conflict) between mentalities, and may lack a ‘compassionate, caring mentality’. The aim of therapy is therefore to develop this part of the self, rather than ‘rationalising’ dysfunctional beliefs. Mentalities can be personified, and activated, in therapy using the ‘2-chairs technique’ in which the client moves between chairs and engages in a dialogue between their mentalities e.g. inferior versus attacking or compassionate versus attacking. Much attention is paid to the affective and sensory quality of the shame-signal (the tone of voice of mentalities, the visual image etc.). This approach might also be beneficial for BD, who demonstrated a conflict between his ‘successful, attacking’ and ‘inferior’ mentalities in therapy. It is possible that he never experienced or internalised a compassionate voice in childhood, which allowed him to fail.

The cognitive-evolutionary approach might therefore be beneficial in developing BD’s compassionate social mentality, and in producing more enduring affective change, and reduction in shame-related appraisals than traditional cognitive-behavioural approaches alone.
References:


Appendix 1: DSM-IV (APA, 1994) criteria for Post-Traumatic Stress Disorder

The clinical manifestation of PTSD is characterised by the following symptoms:

A. Exposure to a traumatic event that led to *perceived* threat to the physical integrity of self or others, and that the experience engendered intense fear, helplessness or horror.

B. The event is *re-experienced* through dreams, images, thoughts, flashbacks or intrusive memories, physiological reactivity to cues that resemble the trauma.

C. *Avoidance* of trauma-related stimuli, and numbing of emotional responsiveness (to prevent triggering re-experiencing symptoms).

D. *Increased autonomic arousal* including an abnormal startle response, hypervigilance and poor sleep.

E. These symptoms must be present for over one month, and cause significant functional impairment.
SERVICE-RELATED RESEARCH

Evaluation of a mutual support group for older adults caring for a relative with dementia:

A combined quantitative and qualitative approach
INTRODUCTION

SUMMARY OF THE EVALUATION

THE CARERS GROUP: Background information and objectives

AIMS OF THE EVALUATION

METHOD: Participants  
Ethics  
Measures  
Procedure

RESULTS: Descriptive and demographic data  
Rating scale: evaluation of the aims of the service  
Current carer stress  
Graphs  
Qualitative analysis (IPA)  
Figure 2: Model of the impact of mutual carer support

DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

REFERENCES

APPENDIX 1: Relatives Stress Scale

APPENDIX 2: Semi-structured evaluation interview schedule and rating scale

APPENDIX 3: Information sheet for participants

APPENDIX 4: Interpretative phenomenological analysis process described

APPENDIX 5: IPA raw data: Narratives from the semi-structured interviews illustrating concepts and themes arising from the evaluation, and illustrated with quotes from carers.
INTRODUCTION

"It's important to have people around you who've been through it... who know what you are going through... Relative's groups help people to adjust bit by bit as you hear how other people are trying to cope... You pick up what you need to know as you go along...

It's like talking to like... Not everyone has exactly the same experience but so much is common... If you don't find others you can be totally isolated... It's good to laugh about it and with others you can"

(The benefits of mutual support by a widow aged 60: CRAC Dementia1994: 1).

Carers of older adults

Caring for a disabled elder has been identified as one of the most stressful and disruptive events in the family life cycle and may be a long-term responsibility. For example, family caregivers of individuals with dementia report significant levels of depression, stress and strain (Morris, Morris and Britton, 1988; Eagles et al, 1987). Carers have to cope with the ‘loss’ of their relative, changing patterns of cognitive and/or physical decline, transitions to residential care and the cessation of the caring role. As carer breakdown leads to the utilisation of expensive mental health services for the carer and institutional care for the relative, it may be cost-effective to offer community-based support services such as groups to carers and their relatives to prevent stress levels escalating and crises occurring.

Models of carer stress and coping

A well-established model that aims to broadly categorise the types of stressors experienced and factors that protect against carer burden or reduce it is illustrated in figure 1 below. Within this stress-process model (Pearlin et al, 1990), ‘primary stressors’ are those that relate directly to the act of being a carer such as time, effort and role captivity (feeling trapped: a strong predictor of mental health status in longitudinal
studies). ‘Secondary stressors’ are considered ‘knock-on’ negative changes in carers’ lives, such as loss of social networks (Horowitz, 1985), loss of other roles such as job, economic hardship and family conflict. ‘Secondary intrapsychic strain’ includes the psychological impacts of caring such as erosion of sense of self, guilt, anger, loss of self-esteem, reduced self-efficacy, loneliness and depression.

Within the model, stress pathways are prevented or reduced by ‘mediators’, processes that lead to positive outcomes of adaptive coping, and good mental health. Pearlin et al (1990) proposed that chronic carer stress might proliferate to other areas of life than care giving if not reduced adequately. Conversely, stress containment is seen to occur where carers use mediating resources such as psychological resources and coping strategies. Lazarus and Folkman (1984) identified three types of coping: Problem solving and cognitive coping, which reduce distress and emotional coping, which is associated with low perceived self-control and efficacy, and exacerbates distress. Research demonstrates that many carers feel overwhelmed by the caring role, deskillled and unable to problem-solve effectively to cope with the demands of caring. Such perceived loss of control has been consistently associated with higher levels of depression and stress (Morris, Morris and Britton, 1988), which carer interventions aim to reduce.

**Carer support services: professional and informal interventions**

The aim of carer-based support and interventions might therefore be to engender control and self-efficacy and strengthen the ‘mediators’ shown in Pearlin’s model to alleviate stress and adaptive (cognitive and practical) coping. Access to support services such as benefits and respite may also more directly reduce primary and secondary stress and burden.
Interventions that directly target caregivers’ needs range from individual counselling to family therapy, psycho-educational and mutual support groups. Instrumental support e.g. sitters and respite care are sometimes available to enable carers’ to have a break from caring. Morris, Morris and Britton (1988) have found a strong association between formal/ professional support and the well being of carers as might be expected though Gillear et al (1984) found no association between GHQ\(^1\) scores and amount of formal support received.

**Mutual support groups**

The fostering of strong natural/ informal support systems has been highlighted by some researchers as potentially more empowering and effective than replacing them with professional care. This is the ethos in which the concept of the support group developed. Carer support groups aim to directly target carers’ needs and may be disorder specific (e.g. for Alzheimer’s) and psychoeducational (e.g. Chiverton and Caine, 1989), for primary carers or also including carers whose relatives are in residential care (Rosenthal and Dawson, 1982), structured versus informal, closed versus open, and run within a clinical service or at a community-based setting. Carer groups may provide support at many levels including instrumental (practical) support in accessing services, strategies for caring and education; emotional support in sharing and normalising negative emotions, enhancing control, self-esteem and self-efficacy and offering counselling and access to social support. Through these processes they may strengthen the mediators of stress within Pearlin et al’s (1990) model (figure 1).

---

\(^1\) GHQ: General Health Questionnaire
Figure 1: A stress-process model of caregiving stress (adapted from Pearlin et al, 1990)

**Background and context**

**Primary Stressors**
- Time
- Effort
- Energy

**Secondary Role Strains:**
- Family and
- Job conflict

**Secondary Intrapsychic Strain**
- Self esteem
- Loss of self
- Guilt, anger

**MEDIATORS**
- Coping, finances
- Social Support
- Psychological factors e.g. self-efficacy

**OUTCOMES**
- Well-being
- Health
- Coping v. breakdown
Summary of the evaluation

This report describes the evaluation of a long-term mutual support drop-in group for 22 carers and ex-carers of older adults. The service was run by a national voluntary organisation in an outer London borough. Evaluation outcome was defined firstly in terms of reductions in current carers' stress ratings over the 6-month evaluation period, as this is an established, valid outcome aim for carer groups (Zarit and Edwards, 1999). It was hypothesised that attendance at the group attendance at the group would be associated with a reduction in stress. Secondly, the extent to which the service met its stated aims was evaluated through attendees' ratings of the level of support offered by the service across a range of domains including emotional and practical support, service access and information. Finally, carers' perceptions of the support offered by the group and its impact on their stress levels and lives was qualitatively evaluated from semi-structured interviews undertaken with a cross-section of the carers and ex-carers. The results are discussed in relation to their service implications and in light of existing literature and models of carer stress and support described above.

The carer drop-in group: background information and objectives

The carer drop-in service was an open group, run weekly at a community location by a Carer Support Worker from a large voluntary organisation and was also attended by a member of the Clinical Psychology Older Adults service with a view to offering informal psychological advice or informal counselling. Any non-professional carers or ex-carers of the elderly could attend and carers were also able to bring their relative along to the sessions if they wished. The service had been running for five years at the time of the evaluation and the remit of the group was to provide:

- Information regarding services and support where required
- Home based respite services: Whilst carers attend the service and at other times
- Professional advice regarding services and support and someone to listen and talk through emotional problems (the Carer Support Worker and a Clinical Psychologist respectively)
- Support: help in identifying carers needs and liaising with services (health, social services and voluntary sector) to have these needs met e.g. benefits
- Meeting other carers: To share experiences, advice, support, information and friendship
- To offer support in helping carers meet their own emotional, physical and social needs
- Social activities: Holidays and outings for carers were organised by the service

The aim was to provide an informal setting in which carers could be facilitated to support one another. However, if a carer was going through a difficult period or transition (e.g. moving their relative to residential care) then there was space for them to receive 1:1 counselling, emotional support, advice, information and support in accessing services from the Clinical Psychologist and Support Worker respectively.

Aims of the study: Evaluation of a carer mutual support service

The voluntary organisation funding the group had proposed developing a more ‘formal’ and time limited (ex-carers would no longer be able to attend indefinitely) structure for the group. There was therefore a real need to evaluate the group in the following ways prior to these changes being made:

1. To ascertain who was using the service.
2. To evaluate the extent to which the service met its stated aims by asking carers and ex-carers rate the support offered for a range of domains such as information gaining, stress reduction, education.
3. To quantitatively evaluate the impact of attendance at the group on current carers’ perceived stress and burden, as this is an established outcome variable of such a service.

4. To qualitatively evaluate carers’ views regarding the positive and negative aspects of the group and the processes by which it supported or helped them e.g. to reduce stress or enhance social support.

5. To establish whether/how carers and ex-carers thought the group could be improved e.g. in relation to facilitation, structure or content and whether they wanted a more formal group as was being proposed.

6. To establish how the service fitted into with other carer support services in the area e.g. was it unique in any way or overlapping in its aims?

7. To ascertain the benefits to carers of a member of the clinical psychology team from X Older Adult Service attending the group each week.

These goals were developed collaboratively with the Support Worker running the group.

METHOD

Participants

Twenty-two individuals attended the group (7 men and 15 women). Two were currently caring for parents, 7 were currently caring for spouses, nine were bereaved carers, and four were carers whose relatives lived in residential care. The range of diagnoses of the relatives included Alzheimer’s, stroke and other physical and mental disabilities.

Stress and burden were qualitatively measured for all 9 current carers attending the group and, due to limited time and resources, a representative proportion of the group comprising 3 carers and 7 ex-carers were invited, and agreed, to take part in the semi-structured interview to evaluate the group in more detail and assess whether it was
meeting its stated aims. Carers were not actively excluded on any criteria e.g. length of attendance, diagnosis, gender or carer-status.

Ethics

Consent was gained from management of the voluntary organisation prior to commencing the evaluation and the Support Worker closely liaised with at every stage. Informed consent was also obtained from each carer prior to their participation. Ethics committee clearance from the health authority was not required.

The evaluation

Measures

Demographics and service-utilisation (section 1, appendix 2)

Demographic and service-use information was collected for all participants and included: Carer status, relationship to relative, age, gender, diagnosis, length of attendance at the group, professionals services used and whether other carer support services used.

Current carers: Strain and stress related to caring: (appendix 1)

The Relatives’ Stress Scale (RSS: Greene et al, 1982) measures the amount of stress and strain experienced by carers as a result of their caring role. This is a 15-item self-administered questionnaire, which evaluates personal distress, life upset and negative feelings to yield an overall stress score. Each item is rated on a five-point ‘Likert’ scale with numeric and verbal anchors. Test-retest reliability at three weeks has been shown to be good (0.85) (Greene et al, 1982). This was measured at baseline and 6-month follow-up to evaluate changes in current carer stress. High scores on the RSS are indicative of higher stress levels.
Semi-structured interview for carers and ex-carers (Section 2, appendix 2)

The short semi-structured interview was devised using open-ended questions and a range of prompts to guide a discussion with carers and ex-carers which generated information about the benefits and negative aspects of the carer drop-in in carers' own words (following an idiographic approach).

Service evaluation rating scale (section 3, appendix 2)

A 16-item rating scale was designed and administered after the semi-structured interview to avoid biasing or priming carers' open-ended answers. The items were devised to assess the extent to which the stated aims of the services were being met, and to assess support in a range of domains such as information, service access, emotional support, stress and coping as well as overall satisfaction with the service. Each was rates on a 5-point numeric (anchored) scale from 0 = 'not at all' to 4 = 'totally'. Items 7, 11 and 14 are reversed scored to reduce the risk of acquiescence (Barker, Pistrang and Elliott, 1998). High scores indicated that the aims of the service were being met.

Procedure

The evaluation was conducted by a Clinical Psychologist in Training on placement at the Older Adult Clinical Psychology service. The aims of the research were presented to those attending the service at one of the group sessions and their participation requested. An information sheet about the research project was given to each carer to read prior to their agreeing to participate. Once informed consent to participate was obtained the group was evaluated using the following procedure:

1. **Current carer stress and strain.** Level of strain was measured with the Relative Stress Scale, which had been completed by current carers’ two months prior to this evaluation as part of another study. These scores were therefore used as a baseline for
this evaluation and current carers’ completed the Relative Stress Scale again at 6-months follow-up.

2. **Carer and ex-carers’ own views regarding the benefits and supportive aspects of the group.** The semi-structured interviews were administered to a representative sample of the carers and ex-carers at their homes to ascertain in more detail how the group helped them (e.g. stress, coping, information, respite, services). Open-ended questions were asked prior to the structured rating scale questions to avoid biasing individuals’ own comments and were analysed qualitatively.

3. **The aims of the service:** The interviewer administered the rating scale items to the representative sample of carers and ex-carers at interview following the open-ended questions. Carers selected their own ratings for each item.

Participants were ensured that their feedback would remain anonymous in the report given to management and that any information given would remain confidential. This was made explicit to enable carers’ to comment freely on the negative as well as the positive aspects of the service.

**RESULTS**

1. **Who attended the group? Raw demographic information**

Of those included in the study, 2 were currently caring for parents, 7 were currently caring for spouses, nine were bereaved carers, and four were carers whose relatives lived in residential care. The range of diagnoses of the relatives included Alzheimer’s, stroke and other physical and mental disabilities.
<table>
<thead>
<tr>
<th>Carer age</th>
<th>Carer gender</th>
<th>Ethnicity</th>
<th>Relationship of relative to carer</th>
<th>Diagnosis</th>
<th>Attendance (months)</th>
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<td>1.</td>
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<td>Mother</td>
<td>Alzheimer’s Disease</td>
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<td>White British</td>
<td>Husband</td>
<td>Alzheimer’s Disease</td>
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<tr>
<td>3.</td>
<td>74</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Stroke</td>
</tr>
<tr>
<td>4.</td>
<td>79</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Alzheimer’s Disease</td>
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<tr>
<td>5.</td>
<td>69</td>
<td>Male</td>
<td>White British</td>
<td>Wife</td>
<td>Stroke</td>
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<tr>
<td>6.</td>
<td>77</td>
<td>Male</td>
<td>White British</td>
<td>Wife</td>
<td>Chronic physical illness</td>
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<tr>
<td>7. *</td>
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<td>Alzheimer’s Disease</td>
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<tr>
<td>8. *</td>
<td>70</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Stroke</td>
</tr>
<tr>
<td>9. *</td>
<td>75</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Chronic physical illness</td>
</tr>
</tbody>
</table>
Table 2*: Carers and ex-carers who undertook the semi-structured interview

<table>
<thead>
<tr>
<th>Carer</th>
<th>Carer age</th>
<th>Carer Gender</th>
<th>Ethnicity</th>
<th>Relationship of relative to carer</th>
<th>Diagnosis</th>
<th>Carer Status</th>
<th>Attendence (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. *</td>
<td>70</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Stroke</td>
<td>Primary carer</td>
<td>24</td>
</tr>
<tr>
<td>2. *</td>
<td>74</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Chronic physical illness</td>
<td>Primary carer</td>
<td>22</td>
</tr>
<tr>
<td>3.</td>
<td>71</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Stroke</td>
<td>Ex-carer (in residential care)</td>
<td>25</td>
</tr>
<tr>
<td>4.</td>
<td>80</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Chronic physical illness</td>
<td>Bereaved</td>
<td>20</td>
</tr>
<tr>
<td>5.</td>
<td>78</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Chronic physical illness</td>
<td>Bereaved</td>
<td>36</td>
</tr>
<tr>
<td>6.</td>
<td>73</td>
<td>Female</td>
<td>White British</td>
<td>Friend</td>
<td>Chronic physical illness</td>
<td>Ex-carer (in residential care)</td>
<td>55</td>
</tr>
<tr>
<td>7.</td>
<td>75</td>
<td>Female</td>
<td>White British</td>
<td>Husband</td>
<td>Chronic physical illness</td>
<td>Bereaved</td>
<td>30</td>
</tr>
<tr>
<td>8.</td>
<td>81</td>
<td>Male</td>
<td>White British</td>
<td>Wife</td>
<td>Alzheimer’s</td>
<td>Bereaved</td>
<td>48</td>
</tr>
<tr>
<td>9. *</td>
<td>47</td>
<td>Male</td>
<td>White British</td>
<td>Mother</td>
<td>Alzheimer’s</td>
<td>Primary carer</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>77</td>
<td>Male</td>
<td>White British</td>
<td>Wife</td>
<td>Alzheimer’s</td>
<td>Bereaved</td>
<td>38</td>
</tr>
</tbody>
</table>

* These current carers were included in the pre and follow-up measures of carer stress and in the semi-structured interview stage of the research and their details are listed in both sets of descriptive data.
Table 3: Descriptive demographic and service-use data for carers (summarised)

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Variable categories</th>
<th>Current carers (N=9)</th>
<th>Interview sample (N=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Age of carer:</td>
<td>Median (IQ range: 25\textsuperscript{th}-75\textsuperscript{th})</td>
<td>71 (62 - 76)</td>
<td>74.50 (70.75 - 78.50)</td>
</tr>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>68.56 (10.66)</td>
<td>72.60 (9.70)</td>
</tr>
<tr>
<td>Carer Status:</td>
<td>Primary carer</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Ex-carer (in residential care)</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Bereaved</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>White British</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship of relative to carer</td>
<td>Husband or wife</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Parent</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Friend</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Alzheimer’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stroke</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Chronic physical illness</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Time attended (months)</td>
<td>Median (IQ range: 25\textsuperscript{th}-75\textsuperscript{th})</td>
<td>22 (11-26)</td>
<td>27.5 (21.5-40.5)</td>
</tr>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>18.9 (8.67)</td>
<td>30.2 (14.72)</td>
</tr>
<tr>
<td>Service use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are/ were other carer support services used?</td>
<td>Yes (percentage)</td>
<td>6 (66.7)</td>
<td>6 (60)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 (33.3)</td>
<td>4 (40)</td>
</tr>
<tr>
<td></td>
<td>No (percentage)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respite</td>
<td></td>
<td>6 (66.7)</td>
<td>6 (60)</td>
</tr>
<tr>
<td></td>
<td>No (percentage)</td>
<td>3 (33.3)</td>
<td>4 (40)</td>
</tr>
<tr>
<td>Sitter services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>7 (77.8)</td>
<td>6 (60)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2 (22.2)</td>
<td>4 (40)</td>
</tr>
<tr>
<td>Day-care (e.g. day centre for relative)</td>
<td>Yes</td>
<td>4 (44.4)</td>
<td>3 (30)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>5 (55.6)</td>
<td>7 (70)</td>
</tr>
<tr>
<td>Nursing/ care assistant</td>
<td>Yes</td>
<td>4 (44.4)</td>
<td>4 (40)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>5 (55.6)</td>
<td>6 (60)</td>
</tr>
<tr>
<td>Psychiatrist for relative</td>
<td>Yes</td>
<td>2 (22.2)</td>
<td>2 (20)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>7 (77.8)</td>
<td>8 (80)</td>
</tr>
<tr>
<td>Counselling for carer</td>
<td>Yes</td>
<td>1 (11.1)</td>
<td>1 (10)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>8 (88.9)</td>
<td>9 (90)</td>
</tr>
</tbody>
</table>
Tables 1-3 illustrates the diversity of diagnoses of relative, length of attendance at the service, and carer status (current or ex-carer) within the group, and the contrasting homogeneity for ethnicity (all ‘White British’, which is quite representative of this borough, and there are known carer support networks within the local ethnic minority communities that offer support to these groups), age and relationship to cared-for person (predominantly spouses). Eleven females and 5 males were included in the study, and this was reasonably representative of the total group (7 men: 15 women) and of the carer population, which has a higher proportion female carers. Carers all reported high current or previous use of respite and sitter services as well as nursing support and having accessed these services via support and advice at the carer group. Only one carer had received any counselling to cope with depression as a result of the caring role. A high proportion of carers (6/9) and ex-carers were utilising additional carer support services e.g. other groups in tandem with this group such as those run by national carer organisations.
To what extent did the group offer support across a range of domains?

Table 4: Interview rating scale scores: Descriptive summary of carer scores (N = 10)

<table>
<thead>
<tr>
<th>Interview Rating Scale</th>
<th>Mean (SD)</th>
<th>Median (IQ range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Information from professional speakers</td>
<td>0.60 (0.84)</td>
<td>0.00 (0 – 1.25)</td>
</tr>
<tr>
<td>2. New Friends</td>
<td>3.10 (0.88)</td>
<td>3.00 (2 – 4)</td>
</tr>
<tr>
<td>3. Accessed other carer support services</td>
<td>1.50 (1.35)</td>
<td>1.50 (0 – 2.25)</td>
</tr>
<tr>
<td>4. Less depressed</td>
<td>2.60 (1.07)</td>
<td>3.00 (1.75-3.25)</td>
</tr>
<tr>
<td>5. Knowledge of carer services increased</td>
<td>2.80 (1.03)</td>
<td>3.00 (2 – 4)</td>
</tr>
<tr>
<td>6. Accessed more care services</td>
<td>2.20 (1.32)</td>
<td>2.00 (1 – 3.25)</td>
</tr>
<tr>
<td>7. More able to cope with caring</td>
<td>2.90 (1.20)</td>
<td>3.00 (2.75 – 4)</td>
</tr>
<tr>
<td>8. Enabled me to have a holiday</td>
<td>2.60 (1.43)</td>
<td>3.00 (3 – 4)</td>
</tr>
<tr>
<td>9. Accessed benefits and financial support</td>
<td>2.80 (0.63)</td>
<td>3.00 (2 – 3)</td>
</tr>
<tr>
<td>10. Learned practical caring skills from other carers</td>
<td>1.90 (0.88)</td>
<td>2.00 (1.75 – 2.25)</td>
</tr>
<tr>
<td>11. Less isolated</td>
<td>2.90 (1.10)</td>
<td>3.00 (2 – 4)</td>
</tr>
<tr>
<td>12. Emotional support</td>
<td>2.80 (0.92)</td>
<td>3.00 (2 – 3.25)</td>
</tr>
<tr>
<td>13. Talk through difficulties</td>
<td>3.00 (0.94)</td>
<td>3.00 (2.75 – 4)</td>
</tr>
<tr>
<td>14. Less stressed</td>
<td>2.80 (1.03)</td>
<td>3.00 (2 – 4)</td>
</tr>
<tr>
<td>15. Personal reward from helping other carers</td>
<td>3.20 (0.92)</td>
<td>1.50 (2 – 4)</td>
</tr>
<tr>
<td>16. Extent to which service meets carers support needs</td>
<td>2.60 (0.70)</td>
<td>2.50 (2 – 3)</td>
</tr>
</tbody>
</table>

The only item with a median score of 0 was ‘information from professional speakers’ as this was not usually available at the service. Carers responses indicated that they ‘strongly agreed’ that the group led them to have ‘new friends, ‘feel less depressed’, ‘less stressed’ and ‘less isolated’ and that they could ‘talk through difficulties’ and ‘gain emotional support’. They also strongly agreed that they were more able to cope with caring, access benefits, have a holiday (as these were arranged by the carer service, as
was respite care where necessary), and that knowledge of carer services had improved. They moderately agreed that the service helped them access more care services, that they learned practical caring skills from one another, and that the group met their support needs as carers. Personal reward from helping other carers was experienced by most carers (mean = 2.60).

**Did the group achieve its stated aims?**

The high ratings given by carers and shown in table 4, above, suggest that the carer group did meet the stated aims cited earlier in this report. However, the group only ‘moderately’ met their overall needs as carers or ex-carers.
Did attendance at the carer group reduce stress and carer strain over six-months?

Table 5: Current carers’ Relative Stress Scale Scores
(pre, post, difference, mean, median, statistical significance)

<table>
<thead>
<tr>
<th>Current Carers: Relative Stress Scale</th>
<th>Mean (SD) Pre</th>
<th>Post</th>
<th>Median (IQ range) Pre</th>
<th>Post</th>
<th>Difference in RSS scores at follow-up P. Value (1 d.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feel can no longer cope</td>
<td>2.67 (0.87)</td>
<td>1.44 (0.53)</td>
<td>2 (2 - 3.5)</td>
<td>1.0 (1 - 2)</td>
<td>P = 0.015</td>
</tr>
<tr>
<td>2. Need a holiday</td>
<td>3.11 (0.78)</td>
<td>2.22 (0.83)</td>
<td>3 (2.5 - 4)</td>
<td>2.0 (2 - 2.5)</td>
<td>P = 0.038</td>
</tr>
<tr>
<td>3. Get depressed</td>
<td>3.33 (0.71)</td>
<td>2.11 (0.601)</td>
<td>3 (3 - 4)</td>
<td>2.0 (2 - 2.5)</td>
<td>P = 0.005</td>
</tr>
<tr>
<td>4. Own health suffered</td>
<td>1.56 (0.88)</td>
<td>1.44 (0.88)</td>
<td>2 (1 - 2)</td>
<td>1.0 (1 - 2)</td>
<td>P = 0.564</td>
</tr>
<tr>
<td>5. Worry about accidents</td>
<td>2.11 (0.78)</td>
<td>1.56 (0.53)</td>
<td>2 (1.5 - 3)</td>
<td>2.0 (1 - 2)</td>
<td>P = 0.059</td>
</tr>
<tr>
<td>6. No end to problem</td>
<td>2.78 (1.30)</td>
<td>1.67 (1.00)</td>
<td>3 (2 - 4)</td>
<td>2.0 (1 - 2)</td>
<td>P = 0.015</td>
</tr>
<tr>
<td>7. Difficult to have holiday</td>
<td>2.89 (0.93)</td>
<td>1.78 (0.83)</td>
<td>3 (2.5-3.5)</td>
<td>2.0 (1 - 2)</td>
<td>P = 0.026</td>
</tr>
<tr>
<td>8. Social life affected</td>
<td>2.44 (0.88)</td>
<td>1.78 (0.67)</td>
<td>2 (2 - 3)</td>
<td>2.0 (1 - 2)</td>
<td>P = 0.026</td>
</tr>
<tr>
<td>9. Household routine affected</td>
<td>2.67 (1.00)</td>
<td>2.22 (0.83)</td>
<td>3 (2 - 3.5)</td>
<td>2.0 (2 - 2.5)</td>
<td>P = 0.157</td>
</tr>
<tr>
<td>10. Sleep interrupted</td>
<td>1.67 (1.12)</td>
<td>1.89 (1.054)</td>
<td>2 (0.5-2.5)</td>
<td>2.0 (1 - 3)</td>
<td>P = 0.414</td>
</tr>
<tr>
<td>11. Standard of living reduced</td>
<td>1.67 (0.87)</td>
<td>1.56 (0.88)</td>
<td>2 (1 - 2)</td>
<td>2.0 (1 - 2)</td>
<td>P = 0.564</td>
</tr>
<tr>
<td>12. Embarrassed by relative</td>
<td>1.33 (1.12)</td>
<td>1.22 (0.83)</td>
<td>2 (0 - 2)</td>
<td>1.0 (0.5 - 2)</td>
<td>P = 0.655</td>
</tr>
<tr>
<td>13. Having visitors prevented</td>
<td>1.44 (1.13)</td>
<td>1.33 (1.19)</td>
<td>1 (0.5-2.5)</td>
<td>1.0 (0.5 - 2.5)</td>
<td>P = 0.317</td>
</tr>
<tr>
<td>14. Cross or angry with relative</td>
<td>2.78 (1.20)</td>
<td>1.44 (0.73)</td>
<td>3 (1.5 - 4)</td>
<td>2.0 (1 - 2)</td>
<td>P = 0.016</td>
</tr>
<tr>
<td>15. Frustrated by relative</td>
<td>3.11 (1.17)</td>
<td>1.78 (0.83)</td>
<td>4 (2 - 4)</td>
<td>2.0 (1 - 2.5)</td>
<td>P = 0.010</td>
</tr>
<tr>
<td>Sum of RSS scores</td>
<td>35.56 (9.67)</td>
<td>25.33 (7.70)</td>
<td>36 (28 - 44.5)</td>
<td>24 (18.5 - 32.5)</td>
<td>P = 0.009</td>
</tr>
</tbody>
</table>

1based on Non-parametric test of significance: (Wilcoxon Signed Ranks Test)

Table 5 shows that carer stress scores were significantly reduced at follow-up for the current carers on 9 of the 15 RSS items covering a wide range of domains.
Graph 1: Bar chart showing median difference in current carer stress as measured by the Relative Stress Scale between time one and 6-month follow-up: Overall scores

This bar chart illustrates the median reduction in overall stress scores of >10 points for current carers at follow-up, which was statistically significant (see table 5 for p values).

**Relationship between stress and length of attendance at the group**

A post-hoc analysis revealed a non-significant negative relationship between current carers’ length of attendance at the carer drop-in service (months) and overall difference in stress from baseline to follow-up (Spearman’s rho = -0.47; p = 0.194, 2-tailed). Those who had attended the group for longer show a smaller reduction in stress scores at the six-month follow-up, suggesting that greater gains were made in the earlier months of attendance and maintained over time, though the small sample means that no firm conclusions can be drawn regarding this relationship.

**Qualitative analysis of semi-structured evaluation interviews with carers and ex-carers**

As many group members were ex-carers and a measurement of ‘carer stress’ was not applicable as an evaluation measure, an idiographic case study approach (drawing on
Interpretative Phenomenological Analysis approaches: Smith, Jarman and Osborn, 1999) was used to qualitatively analyse and interpret the themes arising from the interviews to understand how the service was experienced by carers and how it impacted on stress levels, support and coping (see appendix 4 for details of this process and methodology). A 28-year-old Caucasian, female Clinical Psychology Trainee on an Older Adult Placement conducted the data collection and analysis. The process of Interpretative Phenomenological Analysis used is described in appendix 4.

One transcript was analysed first and a master-list of emerging themes identified. The master theme-list from the first interview was then used as the basis for analysing the second. A cyclical process of analysis was undertaken in which new themes were tested against previous transcripts as they arose. This cyclical process was repeated with each transcript. Themes were then reviewed and merged or grouped into higher-order concepts e.g. ‘coping strategies’ or ‘social support’ where they were clearly related to one another by the attendees.

**Qualitative results from the semi-structured interview: A summary**

Many themes arose from carers’ descriptions and comments that illustrated the unique supportive functions and processes of the mutual support group and it’s positive impact on carer stress and coping, as well as the less positive aspects of the group. Themes associated with stress and burden, effective coping strategies, group processes and dynamics, mutual and social support, and professional support all arose from the data. The interaction of these major themes and associated sub-themes is illustrated in figure 2. The diagram summarises the unique aspects of ‘mutual support’ (e.g. ‘equality’, ‘empathy’, ‘shared identity’, ‘non-judgmental’) that supported carers and ex-carers by...
engendering ‘self-efficacy’ and ‘control’ and enabling the use of adaptive coping strategies such as ‘emotional release’ and ‘normalising negative feelings’. Access to ‘friends’ ‘social support’ and ‘fun, enjoyable’ activities was also an important, unique component of the service that carers did not feel they gained from more formal carer services.

However, as the model demonstrates, professional input was still valued as important in offering access to services such as respite, or benefits or for 1:1 counselling at stressful times. The presence of the Clinical Psychologist at the sessions whom carers felt “safe” in sharing feelings with at “times of crisis” such as loss or bereavement was important to most carers and ex-carers. Three carers also cited a request for monthly informal skills-based sessions such as relaxation or massage, to help them cope with caring and to engage the group in a joint social activity.

Central aspects of the group’s structure and process were identified as contributing to adaptive coping and feeling supported. ‘Continuity’ of the service for ex-carers and through stages of caring was seen as a unique strength of this group. Ex-carers, who often felt excluded from other services, particularly valued this and were seen as a valuable source of ‘diversity’ and a ‘resource’ by current carers. The informal carer-led format of the group was considered satisfactory by all but one ex-carer, who felt it led to ‘cliques’ developing and that there should be ‘stronger facilitation and leadership’ as she felt ‘isolated’ within the group.

A detailed narrative using carers’ words to illustrate the themes and concepts arising from the data are given in appendix 5.
Figure 2: Qualitative analysis

The mutual support group:
A hypothetical model of impact for carers

Balance of mutual versus professional support
Both needed at different times and for different reasons

Mutual Support
Unique factors:
Shared identity, fun and enjoyment, friends, social support networks
Empathy, togetherness and understanding
Belonging (versus cliquey)
Sharing of ideas and information - (2-way process)
Listening to others
Non-judgemental
Equal, Safe and containing
Unique outcome factors:
Empowerment, confidence
Mastery and control/self-efficacy

Carer Support Group process and structure
Continuity (knowing it is there at difficult stage and post-caring)
Diversity as a resource and strength (e.g. carers at different stages of caring as a resource for mutual support)
Balance of group versus individual attention/support (e.g. counselling)
Facilitation of group
Informal versus formal structure

Adaptive Coping strategies
Adaptive:
Emotional release
Normalising feelings
Social comparisons
Sharing ideas and information
Breaks from caring (respite) – reduces role captivity
Accessing benefits and professional support
Facilitated by:
Mastery and control
Empowerment
Information sharing

Positive outcome:
Self-efficacy
Adaptive coping
Social support
Reduced isolation stress, negative emotions and burden

Maladaptive coping
E.g. bottling up feelings
Not normalising feelings
Stress exacerbated/ does not reduce
No respite care

Carer Stress and Burden
Contributing factors:
Isolation and loneliness
Role captivity
Bottle-up feelings
Lack of service support (respite)
Stressful stages:
Breaking/crisis points e.g. loss
Loss and bereavement (depression)
Associated emotions:
Guilt and shame (hard to ask for help), anger and frustration

Shared qualities between mutual and professional support
Advice and information
Listening (being listened to)
Both needed
Supportive (in different ways)

Professional support:
Group versus individual
Unique factors
Support with access to respite care,
Sitting services
Financial support e.g. attendance allowance
Education, informal counselling
1:1 support at times of crisis/breaking point and loss

Maladaptive coping is reduced/prevented.
The mutual support group and individual input buffer against and reduce stress
DISCUSSION

The evaluation demonstrated firstly that the group met its stated aims and standards, which was an important finding. These aims also fitted in well with existing carer support services in offering mutual support and other support not available from other carer services. The evaluation indicated that most attendees obtained specialist teaching e.g. regarding different disorders, or management issues from professional speakers elsewhere (e.g. National Carers’ Association). The use of a range of carer support services and carers’ rating the group as meeting their needs ‘moderately’, suggests that one informal service cannot offer all the support needed of carers and ex-carers and that the availability of a diverse range of services is important in meeting the needs of carers.

Previous research (Kahan et al, 1985) has found that caregivers who attended mutual support groups reported a reduction in burden and depression (see also Barnes et al, 1981) whereas the reverse was found for non-attenders. This was true for this evaluation, with current carers reporting significant reductions in stress at the six-month evaluation. However, stress was measured at two discrete time-points of a long-term group and there may have been other variables including the impact of other services, or changes in relatives’ or carers’ health that mediated stress levels. Given this, and the fact that no control group was included it cannot be assumed that attendance at the group causally reduced carer stress.

Increased access to professional services such as respite and benefits via the group may also account for stress reduction in current carers though this was not assessed in detail. Turvey and Toner (1991) cite benefits of sitter services for carers and Pearson (1988)
found significant benefits associated with respite use including more sleep, free time, and socialising. Meta-analyses have demonstrated respite care to reduce carer burden and stress compared with controls (Knight, Lutzky and Macofsky-Urban, 1993) and support in accessing these services was crucial to carers attending the carer group.

The qualitative, idiographic analyses helped to shed light on the processes underlying the impact of the group on carer and ex-carers’ stress and well being. The stressors identified by current carers in the qualitative interviews were similar to those identified in Pearlin’s (1990) model of primary and secondary carer stress (e.g. role captivity, guilt and shame, low self-confidence, isolation). Figure 3 illustrates how attendance at the support group might act to reduce stress and enhance well being by strengthening what Pearlin et al (1990) term stress ‘mediators’. For example, ‘self-efficacy’, reduced ‘role captivity’, ‘self-confidence’ and ‘control’ were themes identified by both current and ex-carers as being engendered uniquely by this ‘mutual support’ group but not other more formal support services. These variables have been empirically demonstrated to facilitate adaptive practical and cognitive coping (Lazarus and Folkman, 1984) as was found for carers at this support group (see figure 2) and lowered carer burden, role captivity and depression have been empirically associated with increased self-efficacy and perceived ability to cope (Kahan, et al 1995).
The mutual support group reduces primary and secondary carer stress by enhancing mediators e.g. adaptive coping, self-efficacy, social support, and access to services. It may also directly reduce primary stress through offering respite care. They reduce ex-carer stress via reducing isolation and negative feelings e.g. loneliness and sadness/loss and enhancing social support.

The mutual support group reduces primary and secondary carer stress by enhancing mediators e.g. adaptive coping, self-efficacy, social support, and access to services. It may also directly reduce primary stress through offering respite care. They reduce ex-carer stress via reducing isolation and negative feelings e.g. loneliness and sadness/loss and enhancing social support.
Zarit et al (1985) drew on group psychotherapy approaches to summarise the positive processes associated with carer groups: Imparting information; universality; imitative behaviour and interpersonal learning, group cohesiveness and feeling accepted. The unique, supportive aspects of mutual support identified by carers and ex-carers as engendering self-efficacy (e.g. equality, non-judgmental, shared identity, sharing information, togetherness) were in concordance with such literature. Affirmation, empathy, sharing ideas, expressing and normalising negative feelings are also important processes identified in the research literature as enhancing carer well being (Toseland and Rossiter, 1989, cited in Brodaty, 1992). Importantly, carers' identified these factors as being uniquely provided by the group in this evaluation. However, although mutual support was viewed as empowering and supporting, a balance of 1:1 professional input (counselling, information and advice) was also valued at key times ('crises' or 'breaking points') such as bereavements, losses, and changes in service need.

The value of 'indefinite continuity' of attendance at the group post-caring identified by the carers' supports the notion of caring as a long-term developmental process, punctuated by key transitional events. Though Keady and Nolan (1995) highlight the importance of supporting carers beyond recognised episodes of care, Twigg and Atkin (1994) propose that carers are seen as resources within the 'care-giving system' and therefore often cease to receive support once they stop fulfilling this role. Therefore, a potential strength of this group is that it continues to support ex-carers who may be at increased risk of mental health problems following the loss of their relative and carer identity. Also, ex-carers were a 'resource' and support to current carers – offering mutual support and advice. In return, they gained social interaction, reduced isolation, and increased self-efficacy. However, given that one ex-carer felt the group had been
allowed' to become 'cliquey' due to lack of leadership, this highlighted the need for more active monitoring and facilitation of group dynamics, this being one area for possible improvement within the group.

Finally, the group uniquely fostered the opportunity to make friends, have fun, be happy, form friendships, engage in social activities (e.g. holidays), and gain social support that was not offered by other services. Close supportive relationships are known to reduce the risk of depression and to buffer the effects of stress (Cohen and Syme, 1985; Brown and Harris, 1978), both of which are higher in carers and the former in ex-carers (Eagles et al, 1987). Social support has been demonstrated as a strong moderator of perceived carer strain/stress (Hansson and Carpenter, 1993). Carer strain and depression has been found to be less severe for those who have a strong support network (Morris, 1986; Zarit, Reever and Bach-Peterson, 1980) and caregivers with larger support networks require and ask for less formal community support (Caserta et al, 1987), thus reducing strain on formal services. Social support may have been important in the reduction in stress in this study as well as offering ongoing protection against mental health problems for isolated ex-carers, particularly as the group was run on a Monday morning after many had spent the weekend alone.

The shortcomings and service implications of the evaluation are summarised below.

**SHORTCOMINGS OF THE RESEARCH**

Some of the shortcomings to this study that limit the conclusions that can be drawn are:

- The lack of a representative control group of elderly people not attending a carer service.
• The follow-up period for carer stress was only six-months out of a long-term group. It would be useful to monitor carers every six months for two years to look at stress patterns over time.

• Variables such as alternative sources of mutual or social support, amount of professional service use, progression of relatives' illnesses were not controlled for in the analysis, making it hard to draw conclusions regarding causality in the reduction of carer stress.

• The qualitative evaluation was retrospective, and could have been confounded by selective/-biased recall.

• A desire to appear grateful (often found for this cohort) and to show the group as being beneficial could have influenced carers' ratings of the group and their own stress levels.

**RECOMMENDATIONS FOR FUTURE RESEARCH**

Future evaluations of the service might use the qualitative findings of this study to explore quantitatively the supportive impact of the group, for example, by measuring some of the following variables at baseline and follow-up: Social support; group cohesiveness, self-efficacy; mood; coping; access to and use of professional support services, knowledge about services and caring issues. The use of a matched control group of carers not attending such a service, controlling for extraneous variables such as other services used would also be beneficial and extending the follow-up over a longer period would also be worthwhile.

**RECOMMENDATIONS FOR THE SERVICE AND CONCLUSIONS**

The evaluation suggested that the structure and content of the group should be maintained in the following ways:
• The service meets its stated aims and these aims fit well within the structure of other carer support services, by offering something unique to carers.

• Carers and ex-carers should be enabled to attend the group indefinitely as the diversity was a strong resource for the group and continuity of service reassuring to carers.

• The presence of a clinical psychologist (or trainee) to offer informal counselling was very much valued and may prevent mental health crises occurring through support at key emotional stages and should be continued.

• Formal, professional lectures and input were gained within other, more structured and formal support services and therefore need not be introduced to the service.

• The informal, carer-led structure and content of the group was considered by most carers to be ideal. However, as one carer felt that it was ‘cliquey’ more active facilitation by the Support Worker with support from the Clinical Psychologist may be required to monitor and maximise group cohesiveness.

• The introduction of a monthly skills session (e.g. relaxation, exercise) would meet the needs of those who wanted more activities might also reduce stress and facilitate cohesiveness through shared activities.

This evaluation demonstrated that the informal, open ‘mutual support’ structure and content of the carer group met its stated aims and offered unique support to carers not received from other services, which facilitated adaptive coping through self-efficacy and empowerment. It highlighted how informal carer groups may have quite specific impacts on current carers, to reduce stress and the value of offering longer-term support and including ex-carers as well as current carers.
References


Appendix 1: CONFIDENTIAL

RELATIVE STRESS SCALE

Please think about how often/how much each of the following statements applies to you during the past 2 weeks. Circle the number which is closest to the way you have felt.

0 = not at all  
1 = rarely/a little  
2 = sometimes/moderately  
3 = frequently/quite a lot  
4 = always

1. Do you ever feel that you can no longer cope with the situation?
   
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2. Do you ever feel that you need a holiday?
   
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3. Do you ever get depressed by the situation?
   
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4. Has your own health suffered at all?
   
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5. Do you worry about accidents happening to your relative?
   
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6. Do you ever feel there is no end to the problem?
   
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7. Do you find it difficult to get away on holiday?
   
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8. How much has your social life been affected?
   0  1  2  3  4

9. How much has your household routine been affected?
   0  1  2  3  4

10. Is your sleep interrupted by your relative?
    0  1  2  3  4

11. Has your standard of living been reduced?
    0  1  2  3  4

12. Do you ever feel embarrassed by your relative?
    0  1  2  3  4

13. Are you prevented from having visitors?
    0  1  2  3  4

14. Do you ever get cross and angry with your relative?
    0  1  2  3  4

15. Do you ever feel frustrated with your relative?
    0  1  2  3  4
Appendix 2

CARER DROP-IN SERVICE EVALUATION INTERVIEW

Section 1:
a) Demographic and service information
Please answer the following questions about yourself. All information is anonymous and will be treated confidentially.

1. Gender of carer  
   1. Male  
   2. Female

2. Carers ethnic background:

3. Carers age:

4. Are you the primary carer for an elderly person at present?  
   1. Yes  
   2. Not any longer, in residential care  
   3. Not any longer, relative is deceased  
   4. Other (specify)

5. Relationship to person being cared for:  
   1. Spouse  
   2. Parent (or parent in-law)  
   3. Sibling  
   4. Other (e.g. friend)

6. What mental and/or physical health difficulties does/did the cared for person have?

7. How long have you been attending this drop-in service for?

b) Other services utilised
1. Do you currently receive support from any other services in caring for this individual?  
   If yes, which services? (see below for examples)

   1. Clinical Psychologist  
      YES  
      NO
   2. Psychiatry  
      YES  
      NO
   3. Sitter services  
      YES  
      NO
   4. Day care services for the elderly person  
      YES  
      NO
   5. Respite care  
      YES  
      NO
   6. Care Worker/ Nursing support  
      YES  
      NO
   7. Supportive counselling for you  
      YES  
      NO
   8. Other  
      YES  
      NO
2. Do you use any other voluntary services aimed at supporting carers? YES NO

3. If yes, which ones?

Section 2: The carer drop-in service evaluation interview

1. Can you tell me in what ways attending this service has helped and supported you?

Prompts:

a. What have been the most helpful and supportive aspects of this carers' service for you? (E.g. structure and content)

b. What has been the least helpful or supportive aspect of the service?

c. What difference has attending this service made to you?

d. How would things be different if this service were not available?

e. What support does the drop-in service provide that other services have/do not?

f. If you use other carer services, what do these offer that the drop-in service and other services do not?
Section 3: SERVICE EVALUATION RATING SCALE
Please rate the following statements about the support group in terms of how much you feel you agree with them/they are true for you since attending it.

**Rating Scale**
0 = not at all
1 = rarely/ a little
2 = sometimes/ moderately
3 = frequently/ quite a lot
4 = always/ totally

1. I have gained information about services from professional speakers at this service
   0 1 2 3 4

2. I have made new friends through attending this service
   0 1 2 3 4

3. I have accessed other carer support services through this drop-in
   0 1 2 3 4

4. I feel less depressed since attending the support service
   0 1 2 3 4

5. My knowledge of care services has increased through attending the service
   0 1 2 3 4

6. I have accessed more services through advice gained when attending this service
   0 1 2 3 4

7. Since attending the service I feel more able to cope with caring
   0 1 2 3 4

8. This service has enabled me to have a holiday
   0 1 2 3 4

9. The drop-in service has helped me access appropriate benefits and financial support
   0 1 2 3 4

10. Carers can learn practical skills that help with caring from each other
    0 1 2 3 4
11. I feel less isolated since attending this service
   0  1  2  3  4

12. I gain emotional support from other carers attending the service
   0  1  2  3  4

13. Carers can talk through difficulties they are facing at the drop-in service
   0  1  2  3  4

14. Since attending the service I feel less stressed
   0  1  2  3  4

15. I gain personal reward and satisfaction from being able to support other carers
   0  1  2  3  4

16. To what extent does this service meet your support needs as a carer?
   0  1  2  3  4

If you have any other comments you wish to add about this carer support service or other carer support issues, please add them here.

- Thank you for your participation -
Appendix 3

What do carers find supportive and useful about carer support services?

Evaluation of the carer drop-in group at X

Background to the project
In recent years awareness has increased regarding the key role of family care-givers in supporting elder relatives with dementia or other chronic/ degenerative diseases, and of the difficulties and stresses that many care-givers experience when caring for a relative. With an ever-expanding ageing population, the number of carers of elderly relatives is increasing. The Carers Act now states that carers support needs should be assessed in addition to the needs of the elder person. Support might include benefits, direct care for the older adult, respite care or other support from mainstream services, all of which often fail to fully meet the needs of carers.

In response to this, voluntary carer support groups, such as X, have been set up aimed at providing information, support and guidance to carers, and reduce the stress of caring. Understanding what carers find beneficial about carer groups is important for us (the Older Adults Service at X Hospital) in developing more services of this kind. It is also important in identifying any unmet support needs so that we can try and develop and improve our services to meet these needs in the future. Your views and experiences are very important to us in achieving this goal.

Aims of this project: To find out...
- Who attends the carer support service and why?
- What carers find supportive and helpful about the X carer drop-in support service – a chance to have your say.
- Does carer stress reduce as a result of attending the carer support service at X?
- What services (e.g. nursing, medical, psychology, occupational therapy, day or respite care, voluntary and other) carers and their elder relative are receiving currently.
- What supports needs (for carers or their elderly relative) are not currently being met?
- How can we improve the carer drop-in service in the future?

What will the project involve for carers
To collect this information, we are inviting all members of X’s carer drop-in service to participate in this project. Taking part will involve the following:
• Current carers will be asked to complete a short written checklist questionnaire regarding the stresses of caring for an elderly relative at the beginning of the study, and again after six months.

• If you agree to be interviewed, the short interview will take about 30 minutes of your time to complete with X, a Clinical Psychologist in Training from X Hospital, and answer some questions about what you find useful about the carer group, your experiences of caring and the services you receive.

• This interview can take place at X or at your home, at a time convenient to you

• All the information given during the interview will remain strictly confidential and no carer will be named or identified in any way in the final report, which will be a summary of all the findings.

You do not have to take part in this study, and your participation is completely voluntary. If you decide not to take part this will not affect your right to attend the group or receive other carer support services. Even if you agree to take part you may change your mind at any time and dropout without having to give any reason.

How will this research help carers?

• By helping us to understand better what carers find particularly useful about carer support groups, we can develop more carer groups to meet these needs.

• The NHS Older Adults Team at X Hospital can use the information you give to us to develop their services for older people and their carers to meet support needs that are currently unmet.

• A copy of the report written will be given to X so that they can develop their carer services and respond to your views about the strengths and weaknesses of the carer drop-in service.

Project co-coordinator - contact details:
Clinical Psychologist in Training
Psychology Service for Older People
(Available on Monday, Tuesday and Thursday for further discussion about the project)
Appendix 4
Interpretative phenomenological analysis (IPA) described
(Smith, Jarman and Osborn (1999))

IPA is an idiographic case study approach that begins with analysing an individual transcript and developing initial themes for the group from this. The aim is to explore in depth the patient's view of the subject under investigation i.e. it uses personal accounts and does not claim to be objective. It is interpretative because the researcher brings his or her own perspective into understanding that of the patient. The model assumes that a person's thinking can be interpreted from their verbal communications.

Method
1. Analyse one transcript in detail initially.
2. The process begins with looking for specific examples in the text and only then open up to more general categorisations or theory (the idiographic process whereby any models or theories evolve from the interviewee's own words).
3. Initial themes: The transcript should be read several times and anything that is striking or interesting is noted in the left-hand margin. These can be summaries, interpretations or associations.
4. Theme titles: Theme headings are then noted in the right-hand column. These are key words that capture the overall content of the text. They are not definitive but should be demonstrable in specific quotes from the text.
5. Connections: Emerging themes are listed on a separate sheet showing the connections between them. Some may cluster together within a superordinate concept e.g. some themes may draw others into their group, or it may be necessary to develop a new theme to draw together those found in the text.
6. These connections and groupings should be checked to ensure that they fit with what the individual said.
7. Themes and sub-themes: Major themes are listed with sub-themes listed underneath and each theme is substantiated by quotes from the text.
8. *Cyclical*: The above process is repeated a number of times for each interview – you can replace a superordinate theme if a more relevant or appropriate one evolves.

9. *Other cases*: Use the master theme list from the first interview as the basis for analysing the second. This is a cyclical process too, and new themes tested against previous transcripts.

**Analysis**
- The themes are then translated into a narrative account of the interviewees' experiences.
- The final analysis considers how the themes illuminate and fit with existing theoretical work and data.
- It is important to distinguish between respondents' accounts and the interpretation of them (assisted by the use of quotes).
Appendix 5

INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS RESULTS: NARRATIVES FROM THE QUALITATIVE INTERVIEWS WITH CARERS AND EX-CARERS (illustrated in figure 2)

Stress and burden
Many sub-themes related to the concept of stress and burden, for which carers felt they needed support. They described feeling "worn out", "trapped" and "overloaded", of caring being "too much to cope with" suggesting burden and stress. A theme identified by carers as contributing to stress and perceived burden was isolation and loneliness. A current carer of a stroke victim commented, "I felt I was the only one suffering". Another ex-carer of a spouse with Alzheimer’s told how "My friends could not understand - I felt so alone, which made me ever more stressed". Another theme linked to stress and burden was role captivity, being "captive to the caring role" and feeling "trapped" or "consumed" by the "burden" of caring. Lack of service advice also contributed to role captivity and stress as it led carers to feel "trapped", "powerless" and "unsupported". "Bottling up negative feelings" for fear being judged negatively or breaking down completely was identified as leading to stress and tension by 8 of the carers interviewed. Elderly carers felt "shame" and "guilt" at their "frustration and anger" towards their relatives, and also at asking for help for themselves ("I felt ashamed at not being able to cope"). Carers also highlighted the need for support at particularly stressful points of the caring process such as losses or bereavements. One ex-carer said, "when he went into residential care, I really needed emotional support" and another said of her husband, who had died three months earlier, "I needed somewhere to turn for support when he died, in some ways it was more stressful than when he was alive with the Alzheimer’s". These stressors were described as being moderated through processes unique to mutual support and through accessing services and professional advice and support (see below for descriptions).

Mutual support
A number of themes relating to the concept of mutual support (supporting each other) emerged that were uniquely linked by carers to the group. Carers described central components of mutual support as having "equal" (rather than "unequal") professional
relationships), “supportive relationships” within the group in which carers gave each other “advice, information and support” and “learned from each other” to cope with caring or other difficulties. Important themes of mutual support were shared identity and togetherness “we’re all in the same boat”, empathy and understanding “we all understand each other emotionally” “we’re coming from the same place and can relate to one another’s difficulties” and a sense of belonging “I feel at home here”, “the group members are like a second family to me”. The process of mutual support was described as “empowering” and fostering self-confidence – “if other carers believe in you it gives you the confidence to know you can do it” and independence “self-reliance and autonomy through helping each other” “we don’t need professionals for support all the time, we’ve got each other”. Carers felt that the group provided a “non-judgmental”, “safe” and “containing” setting in which to share their difficulties and learn to cope with stressors “we can learn from each other”. The process of mutual support and helping one another, being able to listen to others enhanced self-efficacy, mastery and control – “I know how to go about getting services now” “it’s really important to feel in control” “I feel pride in helping others” “there is a sense of achievement in working things out together, as fellow carers that you don’t get when professionals tell you things”. This environment and the empowerment and efficacy it engendered served to enable more positive coping strategies (see below).

Coping and mutual support

The unique factors described above enabled a range of what carers described as “effective coping” strategies to be activated. These included the “relief” of “emotional release” which was in contrast to the stress of “bottling up feelings” described above. Carers overwhelmingly linked the non-judgmental, safe, empathetic, shared identity and understanding elements of mutual support in the group to being able to share negative emotions “sharing feelings safely, without being judged”. This enabled comparisons with one another such that feelings and experiences were normalised to reduce stress. For example, a current carer told me “I could not talk about my feelings before... but sharing them with the group helped me normalise them and feel that I was not the only one, which made it easier to cope” and another said similarly that “I felt so guilty at resenting my husband [who had Alzheimer’s]... it helped to share this with the group and see I was not all bad or unusual in feeling like that”. The unique mutual support processes of the group facilitated self-efficacy, empowerment and the use of adaptive coping such as emotional expression, and
normalising through comparisons that were not described in relation to any form of professional support or structured group interventions.

Social support and activities
Carers described the service as "a place to meet friends" where social networks can be established and developed. They described "chatting", "laughing", "going on holiday or out for dinner" and as a "social group". One carer said how reassuring it was that "others are there for you" so she did not feel so "alone or stressed". One man described how some carers had now begun to see one another outside the group setting and how this reduced their "loneliness and isolation". Another woman said that "the group support is vital – to know others are there for you is enough to enable you to keep going". This suggests that the mutual support of the group enhances social support to reduced stress, role captivity and isolation. The group enabled carers to gain "enjoyment", "have fun" and "we don’t always cry, we laugh too" which was identified as an important way of "escaping the caring role" and "having a break" from caring. Ex-carers also commented on how these activities reduced 'loneliness'. These factors were unique to the mutual support group, and were not identified for other services.

Professional support
A ‘balance’ of professional and informal support was identified as crucial and no carer felt that this service met all his or her carer needs. All the carers viewed respite care and sitter services as crucial to reducing isolation "I can see my friends" "respite care gave me some social life back" "I was caring all alone before the respite and was so desperate", and reducing role captivity "I feel less trapped" "respite care has set me free" "... gave me time out from caring". Carers reported overwhelmingly that the carer service helped them access professional support services, and benefits through the support of the Support Worker and felt this was very valuable "you don’t even know what you’re entitled to when you join but X makes sure you get all the support you need" "it makes such a difference to have expert advice with forms and applications for support". The activities organised by the service were also commended ("going on holiday" "out to dinner") as fun and good value and contributed to a reduced feeling of role captivity and stress reduction "going on the outings and holidays means I can escape my life and be me again" "I can detach myself from caring..."
and just have fun". Two carers suggested the inclusion of more skills teaching such as relaxation or exercise classes once per month to aid health and stress reduction more overtly.

In addition, 1:1 input from professionals at the group was raised as important for carers in addition to mutual support. "Sometimes you need professional advice and support and X (Support Worker) knows when". They valued having someone available to offer advice and most commented that "the balance was right between professional and mutual support". However, one ex-carer felt that the group should have "stronger leadership" and "focus" as this would reduce "cliques" and this may be an area for further investigation. Carers liked having the opportunity to discuss service matters or emotional issues individually with the Support Worker or Psychologist during group time – "it was not stigmatising" "reassuring to know it's there under your nose at times of crisis or depression which is just when it's so hard to ask for help". This informal counselling may therefore act as a ‘net’ to catch emotional difficulties before they reach crisis such as following a move to residential care as one ex-carer said "I was really depressed and feeling so guilty about moving H away, and X picked up on that at the group and took me aside – it was such a relief and help to finally feel able let it out. I could normalise my feelings with other group members after that".

**Group structure and content (group processes)**

A major theme identified was that of this ‘diversity as a strength and resource’ within the group. For example, one carer commented that "someone in the group has always been there before and can help you – that’s so helpful about having a large mixed group" and a current carer told me "we’re all at different stages of caring, and this makes the group work really well". Only one ex-carer felt that the group was too diverse commenting that it led the group to become “cliquey” and “I can’t understand and help carers of Alzheimer’s relatives as I haven’t been through it – they need a group of their own”. There was therefore a contradiction in diversity as a source of strength or isolation.

Carers all commented on the ‘continuity’ of the group when other time-limited services were gone as very important to maintaining their sense of identity, in reducing isolation and coping with stressful transitions and losses: For example, a bereaved carer said that “it’s hard to stop being a carer suddenly when they’re gone, so it’s really good to hold on to that identity and help other carers” which fits with the rating scale finding that carers find supporting each
other rewarding and empowering (another theme). A current carer commented, "It's reassuring to know the group is here when your loved one has gone". Caring was described as an ongoing process with stressful stages (e.g. "breaking points" and "losses") with a continued need for support ("support at crucial times") at stressful times and post-caring: For example, one ex-carer said that the service "enabled me to cope with the guilt and loss after I put my husband in a residential home" and another commented that "I felt suicidal and lost when X died, and others who'd been there helped me through". Many ex-carers felt isolated and alone following loss and therefore benefited from the social support aspect of the group if not the services "it's good to know you've got somewhere to go after a weekend alone" (the group was run on a Monday). Carers also valued being allowed to bring their relative "sometimes I can't leave him but I still need to see others" "you don't always want respite, so bringing them along is great" as caring could often not cease during group time.