Understanding Attrition in Sexual Assault: Do Trauma Memory and Post-traumatic Stress Symptoms Play a Role?

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Overview

There is a high attrition rate in sexual assault, with a recent study indicating that only 8% of reported cases result in conviction (Kelly, Lovett & Regan, 2005). Despite Government attempts to address attrition, there is a scarcity of research examining the impact of trauma-related psychological processes on the criminal justice processing of sexual assault. This thesis considers the proposal that trauma memory and post-traumatic stress symptoms play a role in attrition.

The Literature Review describes the rates and understanding of attrition, and then examines the processes underlying trauma memory formation and retrieval. This highlights that, contrary to the expectations of the criminal justice system, victims may have difficulty providing coherent accounts of trauma (Office for Criminal Justice Reform, 2006). Research relating to this hypothesis is considered, leading to the suggestion that victims may have impaired intentional but enhanced involuntary recall of trauma memory, thereby impairing their ability to recollect rape and potentially contributing to attrition.

The Empirical Paper (a joint project with the Maddox (2008) study, "The Role of Shame, Self-Blame and PTSD in Attrition of Rape Cases: Victim and Police Perspectives") explores the impact of trauma memory-related processes on victims' experience of the criminal justice system. Participants (N = 22) completed questionnaires about their traumatic reactions and experience of police interviews. Findings indicated that trauma-related processes (peri-traumatic dissociation and fragmented memory) disrupted trauma narratives and were associated with victims perceiving themselves to be less likely to proceed with legal cases.

The Critical Appraisal describes the significant organisational barriers to recruitment and reflects on approaches to addressing them, particularly in reference to the research context and the influence of the criminal justice system.

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Part One: Review Paper

Understanding Attrition in Rape:
Do Trauma Memory and Post-Traumatic Stress Symptoms play a Role?

Abstract

There is a high attrition of rape cases, despite Government attempts to improve rates of conviction (Kelly, Lovett & Regan, 2005). This review will first examine the methodological issues in investigating and current understanding of attrition. It will be suggested that trauma memory may play a role in attrition, given the criminal justice system's emphasis on victims' ability to provide coherent accounts of rape (Office for Criminal Justice Reform, 2006). This proposal will be considered through examination of the processes underlying memory formation, retrieval and PTSD. Related research will be reviewed, indicating that trauma memory is characterised by enhanced spontaneous retrieval and impaired intentional retrieval, thereby impairing victims' ability to recollect rape and potentially contributing to attrition.

UNDERSTANDING ATTRITION IN RAPE:

DO TRAUMA MEMORY AND POST-TRAUMATIC STRESS SYMPTOMS PLAY A ROLE?

Rape is a traumatic crime that represents both a psychological and physical threat to the self, and has wide reaching negative consequences (Kilpatrick, Resnick & Veronen, 1981; Koss, Heise & Russo, 1994; Remer & Ferguson, 1995; Riggs, Kilpatrick & Resnick, 1992). Whilst reporting of rape to the police has increased in recent years, there is a high attrition rate, with a recent finding indicating that only 8% of reported cases result in conviction (Kelly, Lovett & Regan, 2005; Office for Criminal Justice Reform, 2006). This has led to increased Government efforts to address attrition. Recent literature has emphasised the importance of understanding the role of mental health difficulties in the low conviction rate, given that they increase the risk of experiencing rape (Mueser *et al.*, 1998; Stanko, Obsborn & Paddick, 2005) and mental health difficulties often occur as a result of sexual assault (Creamer, Burgess & McFarlane, 2001; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

This review will first briefly consider the methodological issues in investigating attrition. The rates of attrition of rape cases from the legal system will then be described. The current understanding of attrition will be reviewed next, with reference to trauma, social, victim and investigative factors. It will be argued that considering the impact of trauma on cognitive processing and related psychological difficulties may present a promising new direction in making sense of attrition. The potential role of memory in particular will be discussed, by considering the impact of trauma on the formation and retrieval of memories, and how this relates to Post-traumatic Stress Disorder (PTSD). It will be proposed that people who have been raped will have difficulty providing a

coherent account of what happened to the police, through the influence of trauma on deliberate and spontaneous retrieval of memory, thereby increasing attrition. Evidence for this hypothesis will be considered, and directions for further research highlighted.

Literature Search Strategy

The literature for this review was identified through searching PsychINFO for the time period from 1806 to April 2008. The first set of searches involved conducting searches on "rape" or "sexual assault" as keywords in combination with each of the following keywords "attrition", "criminal AND justice" and "police". The second set of searches involved performing searches using "rape" or "sexual assault" as keywords in combination with each of the following keywords: "memory", "PTSD" and "dissociation". The final set of searches used "memory" as the first keyword which was then combined with "PTSD", "trauma" and "dissociation". The search results were then combined to remove duplicates with a total of 6,378 references selected. The search was then limited to only peer-reviewed, English language journal articles or books, with empirical studies using adult populations. The final set of 2,665 titles and abstracts were then reviewed and 121 relevant papers selected for inclusion in the review.

Attrition

Attrition rates reflect those cases that do not come to the attention of the criminal justice process, or are withdrawn from the legal system at some stage and so do not result in conviction. The first stage of attrition is the reporting of rape, which is assessed against the prevalence of rape in the population. Following reporting, attrition can occur for a number of reasons, and is influenced by a range of factors.

Cases may be lost due to victim withdrawal, failure to identify the perpetrator and acquittals, or alternatively the police and the Crown Prosecution Service (CPS) can make an explicit decision not to proceed with cases.

Methodological Issues in Measuring Attrition

The measurement of attrition in rape is confounded by a number of methodological concerns. These concerns will be reviewed in relation to the use of terminology, obstacles to disclosure, assessment techniques, sampling bias and the impact of the criminal justice system.

Understanding attrition is complicated by how rape is defined in research. The definition of rape varies between studies, and has been found to impact on subsequent findings (Greenfield, 1997; Koss, 1993; Myhill & Allen, 2002; Schwartz, 1997). For example, whilst some focus specifically on rape, others utilise a more broad definition of sexual assault and some use the terms interchangeably. Further, legal reforms in recent years have led to revisions in how key terms are defined in the criminal justice system (Tang, 1998). The current legal definition of rape is intentional penile penetration of a person's vagina, anus or mouth without their consent (Sexual Offences Act, CPS, 2003). In this review, the term 'rape' will be used although studies of sexual assault will not be excluded. In addition, there are different ways of describing people who have experienced rape. The two most frequently used terms are 'victim' and 'survivor'. This review will refer to people who have experienced rape as 'victims', given that this is the more widely used term in the UK literature.

People report difficulty disclosing rape, and disclosure has been associated with negative social and psychological consequences (Sudderth, 1998; Ullman, 2000). Given the obstacles to disclosing rape, it is hard to accurately assess rape prevalence and rates of attrition (see Levi, 1997, for further discussion).

The key sampling bias is that there has been little research using participants who have been randomly selected and are representative of the general population. The obstacles to disclosing sexual assault present an inherent bias, with studies often being dependent on people disclosing sexual assault and presenting to health services. In addition, the vast majority of research in this area has focused on women and so may not reflect the experiences of men who have been sexually assaulted.

The assessment approach used also seems to impact upon research findings. There is debate about the validity of self-report questionnaires compared to interview methods, and the role of language in disclosure (Schwartz, 1997). As well as considering assessment measures, it may be helpful to reflect on the social and political context when making sense of attrition as this may have an impact on its measurement.

The impact of context on attrition is particularly illustrated by the influence of local, national and international differences in recording practices and related policy changes (Tang, 1998). Drawing comparisons between studies is therefore difficult and research is less reliable. There have been significant changes to the criminal justice processing in the past several decades, which means that older studies are less relevant to our current understanding of attrition.

"No criming" refers to cases that are reported to the police but for which there is credible evidence that no crime occurred or those have been recorded inaccurately (e.g. reported in the wrong geographical area) (Home Office, 2007). The cases are therefore categorised as "no crime" and excluded from official statistics. However, it has been suggested that the category may be used inappropriately by the police, as an easier means of clearing-up cases (Gregory & Lees, 1996). The implication is that official statistics may therefore underestimate attrition rates, as some cases are not included because they are inaccurately "no-crimed".

In summary, the role of methodology in understanding attrition has been discussed in relation to: the influence of terminology, obstacles to disclosure, the impact of the context and techniques of assessment, sampling bias, the consequences of legal reforms, differences in recording practices and the role of "no-criming". When considered together, these issues suggest that findings may not accurately reflect the attrition process, perhaps underestimating the proportion of cases that do not result in conviction. Given the alarmingly low rate of prosecution, it seems that it would be useful to develop our understanding of and strategies to address attrition.

Rates of Attrition

In this review there will be a focus on the latest estimates of attrition rates in UK samples, in an attempt to address some of the concerns raised above. In recent years the Government has increased its efforts to improve conviction rates with initiatives to address attrition. The initial stage in making sense of attrition involves examination of rates of disclosure and the prevalence of rape, whether or not it has been officially

reported. Research reflecting official statistics then tends to focus on four stages of attrition: reporting the crime, the police investigative stage, the CPS and the court proceedings. There are reciprocal relationships between the stages of attrition, for example, the CPS may play a role in advising the police not to continue with cases at the investigative stage. The rates of attrition at each stage should therefore be understood within the context of the other stages. The studies cited in this review that report official statistics are usually published by the Home Office and are based on data from UK police forces and the CPS.

Disclosure

Whilst evidence suggests that women are increasingly more willing to disclose rape, recent crime surveys involving large samples have found that less than half tell another person what happened, let alone talk to the police (Kelly *et al.*, 2005; Myhill & Allen; 2002; Walby & Allen, 2004). Rape is an offence for which the criminal justice system is particularly dependent on disclosure, given that it is often not witnessed by others. As mentioned earlier, obstacles to disclosure therefore play a critical role in the attrition process.

Prevalence

The prevalence of rape in the UK has yet to be investigated using a dedicated national, random sample. However, a study specifically aiming to assess rape prevalence in 1,007 women found that 25% had experienced rape or attempted rape in their lifetime. In addition, the British Crime Survey (BCS) has included self-report questions to estimate the occurrence of rape and sexual assault since 1998.

The BCS is a large, random survey of private households in the UK that estimates the incidence and prevalence of crime in the population, although its ability to detect sexual violence has been criticised (see Schwartz, 1997; Hagemann-White, 2001). For example, it is argued that disclosure is impaired because the survey focuses on crime, and people may not perceive their experience of rape as a criminal act. In addition, by focusing on private households it excludes people living in other residential settings who may be particularly vulnerable to sexual violence (Sobsey & Mansell, 1990). However, the BCS is considered to be a reliable assessment of trends in the prevalence of crime, as it is resistant to changes in police recording practices.

In recent years, there have been three analyses of data arising from the BCS based on the 1998/2000 (n= 16,944), 2001 (n = 22,463) and 2004/2005 surveys (n = 24,498) (Finney; 2005; Myhill & Allen, 2002; Walby & Allen, 2004). The rates of sexual assault in women were 10%, 17% and 23% and the prevalence of rape was 5%, 4% and 6% respectively. These rates are likely to underestimate the prevalence of sexual assault and rape in the population, due to the reasons discussed above.

Attrition in the Criminal Justice System

The largest UK study to investigate the attrition process was conducted by Kelly *et al.* (2005) and included 3,527 cases of rape. The methodology involved prospective tracking of cases, examination of files, questionnaires and interviews. The latter two were conducted on a sub-sample of women who had been raped (n = 228 and n = 56 respectively). Interviews were also conducted with experts in the area and police officers. Whilst there was a significant amount of missing outcome data, the

triangulation of methods allowed for attrition in rape to be examined in more detail than had previously been done in the UK.

In the Kelly *et al.* (2005) study, 75% of the sample reported the offence to the police. However, the authors note that this is likely to overestimate the rate, as the study only included people already in contact with the police or who had presented to specialist services that facilitate reporting to the police. Indeed, it has been established that failure to report rape is most significant stage of attrition. Estimates indicate that only 5 – 25% of cases are reported to the police, despite an increased rate of reporting in recent years (Easteal, 1998; HMCPS & HMIC, 2007; Jordan, 1998, 2001, 2004; Gregory & Lees 1996; Kelly 2002; Taslitz, 1999; Temkin, 1997).

The investigative stage is where most attrition occurs following entrance to the criminal justice process, with between half and two-thirds of cases being withdrawn (HMCPS & HMIC, 2007; Kelly *et al.*, 2005). A reasonable proportion of these cases are lost because they are "no-crimed", with estimates indicating that a third of these cases may be inaccurately categorised (Kelly *et al.*, 2005). For example, the rate of false allegations is often overestimated and seems to be no higher than in other crimes (HMCPS & HMIC, 2007). In the Kelly *et al.* (2005) study, 9% of cases were designated false, but this was reduced to 3% when researchers reanalysed the data to ensure that the correct categories had been applied. Once crimes have been recorded, cases are mostly lost due to evidential issues and victim withdrawal. Kelly *et al.* (2005) conclude that, "Evidential issues accounted for over one-third of cases lost at the investigative stage... In a substantial number of cases in this category the decision not to proceed

was linked to victim credibility." (p.xi). Cases that were dropped due to insufficient evidence included people with mental health problems, people who had difficulty in giving a clear account and those where DNA testing was not conducted. In relation to victim withdrawal, they note "victims who declined to complete the initial investigative process and victim withdrawals accounted for over one-third of cases lost at the police stage... Key factors in not completing the initial process were being disbelieved and fear of the CJS." (p.xi). The study therefore seems to suggest that police and victim appraisals of credibility play a key role in attrition, through their impact on evidential issues and victim withdrawal.

Following significant attrition of cases at the investigative stage, only 21% of reported cases were referred onto the CPS in the Kelly *et al.* (2005) study. Further attrition then occurred at the CPS stage, with just two thirds of cases reaching the prosecution stage actually proceeding to trial. Being discontinued by the CPS and then victim withdrawal were the most significant reasons for attrition at this stage.

The final stage of attrition occurs in the court proceedings. In the Kelly *et al.* (2005) study, only 183 cases of the original 3,527 cases resulted in conviction. However, there was a significant amount of missing data and a number of cases still pending. Overall, the authors conclude that just 8% of cases (once adjustments were made for missing data) reported to the police resulted in a conviction, and half of these were associated with guilty pleas.

The rates of attrition in the UK (Chambers & Millar, 1983; Feist, Ashe, Lawrence, McPhee & Wilson, 2007; Grace, Lloyd & Smith, 1999; Harris & Grace, 1999; Jamieson, Burman, Grundy & Dyer, 1998; Lea, Lanvers & Shaw, 2003; Lees & Gregory, 1993) are consistent with the international pattern. Rates have declined or remained static despite national and international reforms to address attrition (Gregory & Lees, 1996; Gunn & Linden, 1997; Temkin, 1997). Thus, whilst 1 in 3 rapes reported in the UK resulted in conviction in 1977, this had fallen to approximately 1 in 17 in 2002 and 2005 (Kelly *et al.*, 2005; Regan & Kelly, 2003).

Summary of Attrition Rates

To summarise, the largest UK study investigating attrition (Kelly *et al.*, 2005) identified that at least 25% of cases were lost at the reporting stage (although this figure is likely underestimate the population rates). Of the cases (n = 2244) that were reported, 79% (n = 1777) were withdrawn at the investigative stage (of which approximately 25% were "no crimed", 33% were dropped due to evidential factors and 33% were lost due to victim withdrawal) . A further 6% (n = 145) of cases were lost at the CPS stage and did not proceed to trial. Finally, 7% (n = 139) cases did not result in conviction and so only 8% (n = 183) of reported cases were sentenced in court. Overall, it seems that there is an increased rate of reporting set against a relative decline in convictions. This has led to increased public and Government concern, with calls to address this "justice gap" (Kelly *et al.*, 2005).

that they will be physically injured whilst resisting assault (Steketee & Austin, 1989; Weis & Borges, 1973; Williams, 1984). Evidence seems to indicate that these rape myths are however an inaccurate reflection of the nature of sexual violence (Myhill & Allen, 2002). Tomlinson (1999) argues that the majority of factors influencing attrition in rape stem from these myths. For example, the negative association between trauma severity and attrition discussed earlier is consistent with the view that rape should be violent and cause physical injury. The criminal justice process seems to be biased towards stereotypical perceptions of rape; for example, cases that violate rape myths are more likely to be "no-crimed" (Frese, Moya and Megias, 2004; Smith, 1989).

Social support has also been explored in relation to attrition, particularly in terms of its role in moderating the experience of disclosure. Ahrens (2006) conducted a qualitative interview study of 8 women who had been raped. It was found that negative social reactions led to self-blame, uncertainty about whether a rape had occurred and lack of faith in the criminal justice process. This prevented further disclosures, thereby contributing to attrition. Initiatives to provide victims with positive social support have therefore aimed to address attrition. For example, Campbell (2006) found that the use of rape victim advocates was associated with decreased attrition at the investigative stage and improvements in victims' experience of the criminal justice system.

Victim Factors

The influence of victim factors on attrition will be considered in relation to victim characteristics and appraisals. First, it seems that rates of attrition are higher in cases involving victims from vulnerable social groups. For example, prosecutions are rarely

obtained when victims have mental health problems or learning disabilities (Grace *et al.*, 1992; Harris & Grace, 1999; Lees & Gregory, 1993, 1996; Gregory & Lees, 1996; Kelly *et al.*, 2005; Lea, Lanvers & Shaw, 2003; Smith, 1989; Stanko *et al.*, 2005). This is particularly concerning given that people with these difficulties have higher rates of rape compared to non-clinical samples (Mueser *et al.*, 1998). Further, evidence indicates that approximately half of people who experience rape will develop PTSD (Kessler *et al.*, 1995). The actual and/or perceived sexual history of the victim has also been associated with attrition, despite legal reforms to reduce its impact on the judicial process (Field, 1979; Frazier & Haney, 1996).

Victims' appraisals of their experience of rape and the criminal justice process have also been associated with attrition. Common themes in qualitative research are credibility and believability (Jordan, 2001). As noted earlier, Kelly *et al.* (2005) found that a key factor in withdrawal from the criminal justice system was victims' perception of being disbelieved by the police. This appraisal seemed to be were linked to victim withdrawal as it led apprehension about the experience of the criminal justice process and the wider consequences of proceeding with prosecution.

Investigative Factors

Understanding investigative factors is complex, given their dependence on the factors described above. As mentioned earlier, "no-criming", victim withdrawal and evidential issues are the main reasons for attrition at this stage. Victim credibility appears to be a key underlying factor and may be influenced by the rape myths described earlier, through their impact on police and victim appraisals. Rape is unique in that compared

to other types of crime a relatively greater emphasis is placed on victim credibility, as there are often no other witnesses. The trauma, social and victim factors reviewed above all relate to victim credibility. For example, assault severity, history of substance misuse, alcohol consumption and willingness to prosecute have been linked to credibility judgements (Kerstetter, 1990; Lafree, 1981).

Credibility may also be questioned when there are inconsistencies in the account of rape (i.e. incompatible, incoherent and/or illogical details) provided by victims (Rose and Randall, 1982). Indeed, it has been emphasised that the likelihood of a case being taken forward to court is significantly influenced by the victim's ability to give a coherent, consistent account of the rape (Conway, 2006; Gregory & Lees, 1996; Office for Criminal Justice Reform, 2006). Pillemer (1992) noted that the detail, clarity and meaningfulness of reported memories are likely to influence judgements of how "truthful, accurate, believable and persuasive" (p.244) they are. This is particularly concerning as victims report difficulty in giving statements because they are too tired and confused to provide an accurate account, and may not be able to remember prominent details (Kelly *et al.*, 2005). Inconsistencies in the account of rape have been found to lead police officers to question the veracity of the complaint, and are associated with judgements about whether a false allegation has been made (Jordan, 2004; Kelly *et al.*, 2005). However, the factors impacting upon a victim's ability to provide an account have not been fully considered. It is suggested that trauma-related psychological processes may compromise victims' ability to provide coherent accounts of what happened to them.

Summary of Factors influencing Attrition

Research has attempted to understand attrition by exploring trauma, social, victim and investigative factors. The evidence suggests that beliefs about rape influence victims' and the criminal justice system's appraisal of cases, and may result in credibility being questioned, leading to victim withdrawal and evidential difficulties. Despite this understanding, social developments and legal reforms aimed at addressing these factors have not improved conviction rates despite increased reporting. This suggests that there may be other, as yet unconsidered, processes playing a role in attrition.

Developing Attrition Research

To date, there has been little consideration of the role of cognitive processes in attrition, such as trauma memory and related psychological difficulties. It is proposed that these processes may impair a victim's perceived ability to provide a coherent account of the rape to the police. Investigation in this area seems to be indicated as psychological difficulties are common following rape, and people with mental health problems are more likely to be victims of sexual assault (Mueser *et al.,* 1998; Stanko *et al.*, 2005). It will be proposed the faulty cognitive processes underlying memory formation and retrieval, particularly when resulting in PTSD, may contribute to increased attrition.

Trauma Memory

It is well established that individuals may have difficulty intentionally (i.e. deliberately or voluntarily) recalling trauma memories compared to memories of non-traumatic events, although spontaneous, involuntary intrusions of trauma are common (Conway

& Pleydell-Pearce, 2000; Nijenhuis & van der Hart, 1999; Reisberg & Hertel, 2004). The contradictory nature of trauma memory is particularly marked in the phenomenology of PTSD (Brewin & Holmes, 2003). Research examining the processes underlying memory formation and retrieval has attempted to account for the paradoxical nature of memory for traumatic events. It will be proposed that memory formation is disrupted by peri-traumatic dissociation, resulting in intensely vivid, sensory-perceptual memories that are not integrated in autobiographical memory. The impact of trauma on retrieval processes will then be considered, leading to the suggestion that trauma memory is characterised by impaired deliberate and enhanced spontaneous recollection of events.

How do we Form Trauma Memories?

Cognitive theorists have focused on the role of sensory-perceptual processes in the experience of trauma and related memories. The resulting wealth of evidence has led to a consensus that changes in sensory-perceptual processing during trauma result in fragmented, but vivid, memories being formed (Brewin & Holmes, 2003).

The Impact of Trauma on Sensory-Perceptual Processing

Trauma is associated with marked changes in sensory-perceptual experience, such as increased distress and arousal. It will be suggested that a potentially important factor in understanding the impact of trauma on memory is peri-traumatic dissociation, which is a common reaction to distressing events (see Foa & Hearst-Ikeda, 1996, for a review). However, there is a lack of clarity surrounding the concept of dissociation, perhaps due to it being defined too broadly or not at all (Holmes *et al.*, 2005). In the

context of trauma, it has been conceptualised as transient changes in cognitive and perceptual processes occurring during and immediately after an event, which may manifest as depersonalisation, derealization, narrowing of attention and confusion (Marmar, Weiss and Metzler, 1997). For example, people experiencing peri-traumatic dissociation may report feeling "spaced out" or view themselves from outside of their body.

Pre-traumatic factors such as self-reported personality attributes, coping style and trait dissociation have been associated with increased peri-traumatic dissociation (Kihlstrom, Glisky & Anguilo, 1994; Marmar, Weiss, Metzler & Delucchi, 1996). Dissociation during trauma seems to occur in the context of high levels of peri-traumatic distress, arousal and perceived threat (Fikretoglu, Brunet, Best, Metzler, Delucchi, Weiss, Fagan & Marmar, 2006; Griffin, Resick & Mechanic, 1997; Marmar *et al.*, 1997; Marmar *et al.*, 1996; Southwick, Krystal, Morgan, Johnson, Nagy, Nicolaon, Henninger & Charney, 1993; van der Kolk, van der Hart & Marmar, 1996). However, the relationship between these phenomena is not well understood. Dissociation may be an attempt to reduce distress and threat, it may arise in response to anxiety or there may be no causal relationship between them (Fewtrell & O'Connor, 1989; Horrowitz, 1993; Matthews, Wilson, Humphreys, Lowe & Weishe, 1993; Shilony & Grossman, 1993).

The Impact of Peri-Traumatic Dissociation on Memory Formation

A consequence of peri-traumatic dissociation is that it seems to disrupt the encoding of memory (Harvey, Bryant & Dang, 1998; Krystal, Southwick & Charney, 1995; Zoellner, Alvarez-Conrad & Foa, 2002). It has been proposed that this occurs because

dissociation impairs attention, resulting in a more narrowed focus of awareness (Christianson, 1984; Easterbrook, 1959; van der Kolk & Fisler, 1995). Theories of PTSD (which will be discussed further below) also implicate similar processes in trauma memory formation (Brewin, Joseph & Dalgleish, 1996; Ehlers & Clark, 2000). Central, arousal-provoking and sensory stimuli are then processed at the expense of more neutral, contextual and peripheral details (Halligan, Michael, Clark & Ehlers, 2003). This data-driven processing style is problematic as encoding of autobiographical memories is dependent on the formation of associations within a temporal context (Conway & Pleydell-Pearce, 2000; Spiegel, 2006). Peri-traumatic dissociation therefore leads to marked changes in people's cognitive and affective experience, resulting in vivid yet incoherent memories being formed.

How do we Retrieve Memories of Trauma?

The nature of trauma memory may affect memory retrieval processes. To consider this suggestion, the processes underlying memory retrieval will be reviewed according to Conway and colleagues' cognitive-motivational model of autobiographical remembering (Conway, 1997; Conway, 2002; Conway & Holmes, 2005; Conway, Meares & Standart, 2004; Conway & Pleydell-Pearce, 2000). The model aims to draw together findings of memory research from a diversity of fields (e.g. cognitive, developmental, clinical and neuropsychology) into a conceptual framework for understanding the processes underlying autobiographical remembering. The model will first be described, leading on to consideration of the role of memory in PTSD in the next section of this review. This will be followed by a critical appraisal of the evidence for the retrieval processes

postulated by the model, in order to examine whether trauma memory and PTSD play a role in the attrition of rape cases from the legal system.

Conway and colleagues' model focuses on how autobiographical memories are constructed from stored information. A putative goal-orientated "working self" is central to this process, as it mediates the formation and retrieval of memories. The working self, together with the knowledge base of stored information, form a reciprocal relationship that is called the "self memory system" (SMS). It is argued that autobiographical memory consists of transitory representations of three types of interrelated information: lifetime periods (themes and schemas), general events (vivid, goal-orientated events), and event specific information (ESK) (unorganised sensory-perceptual details). This information is organised hierarchically, with ESK indexed according to general events which in turn are categorised within lifetime periods. This knowledge base is extremely sensitive to cues, and so there is a constantly changing pattern of active information. This is usually inhibited from entering awareness by the SMS, unless consistent with current retrieval goals. Autobiographical memories are therefore formed when the SMS incorporates current goals with a pattern of activation in the knowledge base. The model postulates two routes for the retrieval of memories, generative and direct, that differ by the extent to which they are influenced by the control processes of the SMS.

Generative Retrieval

The generative (or deliberate) retrieval process is likely to be activated when victims are asked to intentionally recollect their trauma when reporting rape. It consists of a

cycle which aims to reduce the discrepancy between the goals of retrieval and accessed information. The cycle is hypothesised to start with the SMS forming a mental model that specifies the target for retrieval (e.g. the memory of a recent telephone conversation) and criteria by which the target can be verified. The verification criteria specified in the retrieval model may both promote and inhibit the construction of autobiographical memory. The influence of context on verification criteria is also highlighted, for example, whether the recall of the target will be private or public.

Once the retrieval model is constructed, the initial cue specified by the model searches the knowledge base for any matches with the target. Any information that is activated is evaluated by the retrieval model specified by the SMS. This is used to elaborate the initial cue which then conducts a more detailed search of stored information. Again, accessed material is evaluated against the retrieval model and the cycle continues. This cycle is repeated until the retrieval model is satisfied and an autobiographical memory is formed, consisting of a pattern of activated information in the knowledge base.

To illustrate this process, imagine an individual was trying to recall the last time they went on holiday. The aim of the retrieval model they construct would be to recollect the memory of their last holiday. The retrieval cycle may then be initiated with the cue of 'holiday', which would access all information stored regarding holidays. As this information would not satisfy the aims of the retrieval model, the cue would then be elaborated (e.g. 'last holiday') and another retrieval cycle initiated. This cue may then

elicit the information relating to the last time the individual went on holiday, leading to the formation of an autobiographical memory.

Direct Retrieval

The second type of retrieval is likely to result in intrusions occurring when victims report rape to the police. It occurs without any involvement of control processes prior to the construction of memory, and instead a cue directly (or spontaneously) triggers a stable pattern of activation in the knowledge base which reaches awareness, resulting in an autobiographical memory that has not been intentionally retrieved. This happens because the knowledge base is extremely sensitive to being activated by cues, although the cues have to exactly match the stored information. Conway and colleagues propose that direct retrieval only occurs when a cue activates ESK; it will not happen if general event or lifetime period information is triggered. This is because of the hierarchical organisation of information in the knowledge base. Activation of ESK triggers the associated general event and lifetime period information for that specific event. However, if a cue triggers general event and lifetime information it leads to a diffuse pattern of activation across autobiographical knowledge which rapidly dissipates, as it does not represent a coherent memory. An example of direct retrieval would be if an individual, when walking through the countryside, found themselves recollecting a childhood memory of playing a game in a field with friends. Even though they had no intention to recall this experience, the stimuli present in the countryside (e.g. the smell of the grass and the sound of wildlife) triggered off sensory-perceptual aspects of the memory, which then activated the related general event and lifetime information.

It is proposed that the SMS constantly monitors and inhibits unintentional patterns of activation of the knowledge base, in line with its current goals. The control processes of the SMS usually act to inhibit these patterns, as unintentional or direct retrieval of memory also disrupts current activities. Spontaneous recall of memory therefore usually only occurs when triggered information is consistent with the goals of the self. In the previous example, it may be that the goals of the self were focused on relaxation and enjoyment, and therefore did not act to inhibit the activated memory. However, the mechanisms of these control processes are not well understood, and it seems that they are sometimes ineffective. Direct retrieval seems to occur more often when people are distracted or stressed, suggesting that the control processes are dependent on processing capacity (Conway, 1997).

Generative and Direct Retrieval in Trauma Memory

It seems that the generative (deliberate) and direct (spontaneous) retrieval mechanisms described above may help to account for the paradoxical nature of trauma memory. It has already been proposed that trauma memories consist of vividly intense sensory-perceptual impressions that are not placed in context and so are experienced as incoherent and fragmented. In relation to Conway and colleagues' model, it appears that the working self would have difficulty encoding or integrating events in memory as they would not be consistent with current goals. Lifetime and general knowledge encoding is therefore limited and instead uncontextualised ESK is stored. For example, as rape is likely to be inconsistent with an individual's goals and aims it cannot be organised adequately within autobiographical memory as there is no existing category for storing this within other lifetime or general knowledge information. However, the

sensory-perceptual information processed during rape will be encoded in memory resulting in vividly intense but uncontextualised recall of the event.

More specifically, this conceptualisation of trauma memory in the knowledge base suggests how generative and direct retrieval processes are likely to be affected. The limited encoding of general and lifetime information in the knowledge base is likely to impair the generative retrieval process in constructing an autobiographical memory. This could result in an incoherent memory being recalled, as information is not available to be accessed by the retrieval model. Conversely, direct retrieval seems likely to be facilitated by trauma memory. Trauma-related ESK is hypothesised to be vulnerable to being regularly triggered, as it is not contextualised in the rest of the knowledge base. This would lead to activation of ESK by matching cues, resulting in intense sensory-perceptual yet incoherent memories. In addition, the construction of trauma-related ESK is proposed to have the potential to disrupt cognition due to the intense emotions it contains. The goals associated with these powerful emotions may be reinstated in the SMS, thereby disrupting current cognitive processing to prioritise trauma-related processes.

Summary: Trauma Memory Formation and Retrieval

In summary, it is proposed that memory formation is disrupted because of the arousal and dissociation experienced during trauma. It is well-established that these sensory-perceptual changes result in vivid, sensory-perceptual memories that are poorly integrated in autobiographical memory (Brewin & Holmes, 2003). It is suggested that generative or intentional retrieval processes are impaired, due to disrupted encoding of

information. In contrast, direct or spontaneous retrieval of memories is increased due to enhanced encoding of, and access to, sensory-perceptual information. Given the emphasis placed on victim's ability to give a coherent, consistent account of what happened during trauma, disturbances in trauma memory may mean that victims' have difficulty with deliberate recall whilst being assailed by involuntary intrusions (Conway, 2006; Gregory & Lees, 1996; Office for Criminal Justice Reform, 2006). Therefore, such memory processes may impact on attrition if the prevailing view is that trauma memory should be like normal autobiographical memories. Enhanced generative and impaired direct retrieval appear to account for the contradictory nature of trauma memory, and are particularly useful in understanding the phenomenology of PTSD. The nature of and the role of memory in PTSD will be considered next, followed by a critical appraisal of the evidence relating to whether people experience impaired generative and enhanced direct retrieval following trauma.

PTSD

Post-traumatic stress difficulties are particularly relevant to making sense of attrition given that they are a common reaction to rape, and that cases are less likely to result in conviction when victims experience mental health problems (Kessler *et al.,* 1995; Stanko *et al.,* 2005). PTSD is defined by DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, Version 4, DSM-IV, American Psychiatric Association, 1994) according to three symptom clusters: re-experiencing (e.g. recurrent and intrusive thoughts, perceptions, feelings, sensations and dreams relating to the trauma), avoidance and emotional numbing (e.g. avoidance of thoughts, feelings, people and places associated with trauma, impaired recall of trauma, and detachment from others and the world)

and hyperarousal (e.g. difficulty falling or staying asleep, irritability/anger, difficulty concentrating, hypervigilance and exaggerated startle response). The symptom criteria for PTSD draw attention to the paradoxical nature of trauma memory. On the one hand, individuals may experience intrusive memories whilst at the same time demonstrating impaired intentional recall of trauma.

Re-experiencing Symptoms

Re-experiencing symptoms are considered to be the hallmark of PTSD. They are characterised by intensely vivid, repetitive, threatening sensations and emotions that occurred during trauma, reflecting relatively brief fragments of the event lasting a few seconds or minutes (Ehlers & Steil, 1995). Whilst less common, re-experiencing that does not accurately reflect trauma has also been found to occur (Holmes, Grey & Young, 2005). The themes of intrusions seem to reflect psychological threat (i.e. one's sense of self as being a worthwhile or valued person) more often than physical threat (Conway *et al.*, 2004; Holmes *et al.*, 2005).

Re-experiencing has a sense of occurring in the "here and now" and it sometimes appears that the event is "relived". For example, an individual may have intrusive imagery consisting of the panic, physical pain and noise that occurred when they were involved in a road traffic accident. Intrusions are therefore hypothesised to have not been encoded within a temporal context in memory. They are triggered by (internal and external) cues that resemble stimuli present at the time of trauma (Ehlers & Clark, 2000). In the previous example, re-experiencing may be triggered off by stimuli such as the headlights of a car.

The threatening meaning and content of re-experiencing may be inconsistent with what has happened since trauma, such as the individual who was involved in the accident being convinced they are going to die even though this did not happen. Intrusions can occur in any sensory modality, although visual images may be most common (Ehlers, Hackmann, Steil, Clohessy, Wenninger and Winter, 2002; Ehlers & Steil, 1995). They are hypothesised to reflect sensory-perceptual experience at the worst moments (or "hotspots") during the trauma, such as fear, anger, humiliation and guilt (Grey, Holmes & Brewin, 2001; Grey, Young & Holmes, 2002; Holmes *et al.*, 2005). Feelings of dissociation have been reported to be the most common cognitive-emotional aspect of intrusions (Holmes *et al.*, 2005).

Prevalence of PTSD

Estimates of the prevalence of PTSD in any given population of course vary according to the sample characteristics and assessment methodology. Kessler *et al.* (1995) conducted one of the best epidemiological studies of PTSD to date; the National Comorbidity Survey recruited a nationally representative sample of 5,877 people in the USA aged 15 to 45 years and interviewed them in person. Assessed against DSM-III-R (American Psychiatric Association, 1987), 60.7% of men and 51.2% of women had experienced a criterion A trauma. The lifetime prevalence of PTSD was 7.8% and current prevalence was 2.8% in the sample. A comparable rate of trauma and PTSD was identified in the National Comorbidity Survey Replication (Kessler, Berglund, Demler, Jin & Walters, 2005). Higher rates of PTSD tend to be identified in non-Western countries, largely because estimates are taken following periods of war and political instability (see Keane, Marshall & Taft, 2006). In relation to trauma type,

rates of PTSD are consistently found to be particularly high in individuals who have been raped. For example, in the Kessler *et al.* study, 65% of men and 46% of women who had been raped met criteria for PTSD as some stage in their life.

Research tends to find gender differences in exposure to trauma and rates of PTSD. Men are more likely to experience trauma (particularly interpersonal violence) than women, although women are more likely to be sexually assaulted (Breslau, 2002; Plichta & Falik, 2001). Despite this however, the lifetime prevalence of PTSD is approximately twice as high in women compared to men (see Seedat, Stein & Carey, 2005, for a review). It has been suggested this may be attributable to differences in trauma exposure, or the subjective experience and interpretations of events (Breslau and Kessler, 2001; Nemeroff, Bremner, Foa, Mayberg, North & Stein, 2006)

Risk Factors

Research has also examined the risk factors that may increase the likelihood of developing PTSD, given that most people who experience trauma will not develop the disorder. Two meta-analyses (Brewin, Andrews & Valentine, 2000; Ozer, Best, Lipsey & Weiss, 2003) have found that proximal factors (peri- and post-traumatic factors such as trauma characteristics, trauma processing and social support) have more of an impact than distal factors (pre-traumatic factors such as personality and IQ), although this may be because the effect of the latter is mediated through the former. It seems that trauma severity (measured subjectively and independently) is one of the strongest predictors of number of reported symptoms, even when measured prospectively. In the Ozer *et al.* (2003) review, peri-traumatic dissociation (a subjective trauma severity

factor) was more strongly associated with PTSD than objective trauma characteristics. The role of post-traumatic reactions and appraisals (such as shame, anger and negative social support) in the development of PTSD has also been highlighted, (Andrews, Brewin, Rose & Kirk, 2000; Brewin, 2003; Brewin *et al.*, 2000; Ehlers, Mayou and Bryant, 1998; Zoellner, Foa & Brigidi, 1999).

Theories of PTSD

Theories about the development and maintenance of PTSD have been based on the observation that it is common for people to experience sensory-perceptual intrusions in the aftermath of trauma, but that these tend to gradually reduce in frequency (e.g. Foa & Kozak, 1991). It is therefore concluded that PTSD reflects impairment in the processes that facilitate emotional processing (Rachman, 1980). As with Conway and colleagues' model of autobiographical memory construction described previously, contemporary cognitive theories of PTSD tend to assume there are multiple levels of representation of trauma-related information (see Dalgleish, 2004 and Brewin & Holmes, 2003 for more detailed discussion). Brewin and colleagues (Brewin, 2001a, 2001b; Brewin, Dalgleish and Joseph, 1996) and Ehlers and Clark (2000) view the processing and representation of trauma-related information, and how this is appraised, as central to understanding PTSD.

For example, Dual Representation Theory (DRT; Brewin, 2001a, 2001b; Brewin *et al.*, 1996) draws from Conway and colleagues' model in specifying two types of memory processing and representation in PTSD. First, conscious processing gives rise to Verbally Accessible Memory (VAM). This reflects contextualised, autobiographical

memories of both primary (e.g. sensory-perceptual experience during the event) and secondary (e.g. subsequent appraisals) aspects of trauma. It is usually only intentionally, or deliberately, retrieved. Formation of VAM is dependent on processing capacity, and so is inhibited by arousal experienced during trauma. Second, sensory-perceptual processing underlies Situationally Accessible Memory (SAM). This consists of uncontextualised, sensory-perceptual memories of stimuli present during the trauma. It is hypothesised that because SAM is not contextualised, sensory-perceptual intrusions can be directly triggered by stimuli associated with the event if they are not inhibited by elaborated VAM. These then interrupt current cognitive processing, by hijacking attention and limiting processing capacity.

Behavioural and cognitive avoidance strategies arise in an attempt to cope with distressing intrusions and their associated cues. However, these paradoxically serve to maintain the intrusive re-experiencing symptoms as they prevent cognitive processing and integration with autobiographical memory (or formation of VAM). Hyperarousal also occurs, either due to the sensory-perceptual information encoded in the intrusions or the impact of the intrusions on current goals and cognitive processes.

Holmes, Brewin and Hennsey (2003) conducted a study where the findings supported the dual representation and processing of trauma-related information in memory. Participants watched a trauma film whilst doing either a visuospatial or verbal task concurrently, and recorded any intrusions they experienced about the film over the next week. There was a reduced rate of intrusions in the visuospatial task relative to the verbal task, in which intrusions increased. The former task was hypothesised to

inhibit the SAM system and therefore enhance VAM encoding, leading to fewer intrusions. Conversely, the latter task inhibited the VAM system resulting in increased intrusions. Neuropsychological evidence relating to the pathways underlying fear and memory processing also supports the proposed two types of memory representation (see Brewin, 2001b, Nutt and Malizia, 2004, and Yehuda, 2000 for further detail).

Ehlers and Clark (2000) also highlight the role of memory processing in PTSD, but in contrast to DRT place particular emphasis on the role of idiosyncratic appraisals in the development and maintenance of PTSD. In line with the outlined model of autobiographical memory construction, they propose there is a tendency to engage in data driven processing (of sensory-perceptual impressions) more than conceptual processing (of meaning, organization and context) during trauma, which results in poorly elaborated and contextualised memories. However, it is the appraisals of trauma and its consequences, reflecting themes such as physical threat, threat to the self and loss, which give rise to and maintain intrusive memories by resulting in a sense of current threat and hyperarousal. Maladaptive avoidance strategies then further maintain re-experiencing as they prevent memory processing. In support of the Ehlers and Clark (2000) model, evidence supporting the role of data-driven processing in PTSD has been found in prospective studies of road traffic accidents (Ehlers, Mayou & Bryant, 1998; Murray, Ehlers & Mayou, 2002; Rosario, Williams & Ehlers, 2002). Further, associations have been found between trauma-related appraisals and PTSD, even after controlling for initial symptoms (e.g. Dunmore, Clark & Ehlers, 2001; Ehlers *et al.*, 1998).

Summary: PTSD

In summary, PTSD is a common consequence of rape with approximately half of victims developing the disorder. It seems particularly likely to occur when individuals dissociate during trauma. PTSD is characterised by poorly contextualised intrusive memories, which result from and are maintained by idiosyncratic, threat-related appraisals. Hyperarousal occurs due to being encoded at the time of trauma or as a consequence of intrusions. In an attempt to cope, individuals engage in avoidance strategies which paradoxically serve to maintain intrusions. Theories of PTSD highlight the impaired intentional recall and enhanced involuntary retrieval of trauma memories, in line with the processes hypothesised to underlie autobiographical memory formation and retrieval. Research findings evaluating models of PTSD are consistent with the view that changes in sensory-perceptual processing during trauma alter the representation of memory and impact on retrieval processes. Evidence evaluating the impact of trauma on retrieval processes will be considered next in more detail, in order to consider the potential role of memory and PTSD in attrition of rape cases.

How may Trauma Memory and Post-traumatic Stress Symptoms play a Role in Attrition of Rape Cases?

The processes hypothesised by cognitive theorists to underlie trauma memory formation and retrieval, particularly in the context of PTSD, seem to suggest that victims of rape will experience difficulty in providing a coherent account of what happened to the police. They may have problems intentionally recalling a consistent account of the event, whilst also experiencing distressing intrusions of rape triggered by trauma-related cues. These involuntary intrusions are likely to further inhibit their

ability to tell the police what happened as they impair cognition. Given the emphasis in the criminal justice system on victims' ability to provide coherent accounts of rape, these disturbances to trauma memory suggest that trauma-related processes may play a role in attrition, (Conway, 2006; Gregory & Lees, 1996; Office for Criminal Justice Reform, 2006). Evidence relating to this hypothesis will now be discussed in relation to generative (deliberate) and direct (spontaneous) retrieval processes.

The Impact of Generative Retrieval on Attrition

Disruptions to generative retrieval in trauma memory are proposed to give rise to fragmented (i.e. disorganised and incoherent) recollections of events. Indeed, it has been suggested that trauma memories and related narratives are more fragmented and disorganised compared to those for non-traumatic events (Foa & Riggs, 1993; Kilpatrick, Resnick, Freedy, Pelcovitz, Resick, Roth & van der Kolk, 1998; Reisberg & Hertel, 2004). Evidence that retrieval of trauma memory results in fragmented recall will be reviewed. This hypothesis is consistent with the cognitive models of autobiographical remembering and PTSD reviewed earlier, which suggest that trauma memories may have less causal and logical connections, resulting in poor organisation within autobiographical memory and fragmented recollections of events. Related evidence has therefore examined the quality of accounts of trauma, either using self-report measures, objective assessments or evaluating narrative changes over the course of therapy.

Research examining subjective reports has generally supported the view that trauma memory is characterised by fragmented recall. In a seminal study, Van der Kolk and

Fisler (1995) explored the nature of trauma memory using a structured interview in a sample of 46 people recruited through advertisements in newspapers. Participants answered questions about the sensory, affective and narrative aspects of their recollections, which indicated they were unable to provide coherent narratives of their experience in the aftermath of trauma. Accounts tended to become less fragmented over time in most of the sample, suggesting that contextual processing of memories occurred. However, a minority of participants reported that their recall of trauma did not improve. This study seems to suggest that rape victims would have difficulty providing coherent accounts to the police, given that they are more likely to be interviewed soon after being assaulted.

Similar results were obtained in a study involving a larger sample using a postal survey (Tromp, Koss, Figueredo and Tharan, 1995; Koss, Figueredo, Bell, Tharan and Tromp, 1996). Participants (n = 3,179 female medical centre and university employees) were asked to identify their most recent or significant experience of sexual assault or another intense life experience (positive or negative) if they had not experienced sexual violence. They were then asked about their memory for the event using the Memory Characteristics Questionnaire (Suengas & Johnson, 1988). Sexual assault memories were more emotionally intense but less clear, vivid, well-remembered and meaningfully ordered compared to the other types of memory. In support of these findings, another study using the Memory Characteristics questionnaire found trauma and negative memories were less well remembered (specifically for the period immediately prior to trauma) and less clear (with regard to sensory details) than positive memories in a sample of 113 undergraduate students (Bryne, Hyman and Scott, 2001). However,

there was no relationship between memory characteristics and post-traumatic stress symptoms. The authors do not report on the severity of PTSD within the sample, and it may be that the findings reflected a low level of psychological difficulties overall. Conversely, Halligan, Clark and Ehlers (2002) explored the impact of data-driven processing on trauma memory in a student population. Data-driven processing was positively associated with self-reported incoherent and disorganised recall, and analogue re-experiencing and other PTSD symptoms.

Hellawell and Brewin (2004) asked participants with PTSD (n = 64) to produce written narratives of trauma. They then identified any sections of the narrative which were characterised by re-experiencing. The content of the "ordinary" and "flashback" memory sections of the accounts were then coded for features typically held to reflect re-experiencing (e.g. references to emotions and sensations). Participants were also asked to rate each section on how interconnected (i.e. in a sequence) and fragmented (i.e. like separate scenes) they were using a 5-point scale. The ordinary memory and flashback sections were then compared on these variables. There was no difference in fragmentation, although the flashback sections were associated with increased sensory and affective detail, and more use of the present tense. It might then be expected that these periods were more likely to be incoherent, however they were also judged by participants as being more interconnected than the ordinary memory sections.

The findings are therefore somewhat inconsistent with the hypothesis that traumatic memory will be more fragmented and disorganised than everyday memories. However, there was no control condition in the study in which participants wrote about neutral

events. These narratives would be hypothesised to be more organised and connected than the trauma memory accounts, and therefore would have provided a helpful comparison. The trauma memory narratives (whether the ordinary or flashback sections) would be expected to be generally disorganised, it may be that the findings just reflect the marked lack of interconnected, contextualised information in the ordinary memory sections relative to flashback sections. As the sections indicative of re-experiencing consisted of more intense sensory-affective information, this vividness may have contributed to a greater sense of interconnectedness than in the rest of the narratives.

Other self-report study findings have also been more inconsistent with regard to the trauma memory fragmentation hypothesis. In comparing trauma memories of people with (n = 25) and without PTSD (n = 88), Berntsen, Willert & Rubin (2003) found no difference between the groups in account coherence, although the former group reported more sensory-perceptual imagery when recollecting their experience. However, the mean rating in the sample was 3.25 (on a 5 point scale, 'totally coherent' to 'totally incoherent') suggesting that memories were somewhat fragmented. Rubin, Feldman & Beckham (2004) asked veterans (n = 50) to reflect on four types of memories (pre-service, non-combat, combat and intrusive) and report on the extent to which they were coherent and fragmented, but found no difference between the groups or associations with PTSD severity.

Developing valid standardised assessments of trauma narratives is hard due to the complexity of operationalising the research concepts. Studies focusing on objective

assessment of trauma narratives have tended to use educational or linguistic measurement, and it is not clear to what extent these reflect the attributes hypothesised to underlie traumatic memory. Amir, Stafford, Freshman and Foa (1998) examined the association in the reading level and reading ease of trauma narratives to trauma-related pathology. Twelve female victims of rape provided account of their trauma and completed self-report measures of trauma-related pathology (anxiety, depression and PTSD) immediately and three months after the assault. Reading level and ease were negatively associated with immediate levels of anxiety, but not PTSD symptoms. However, they were negatively associated with more PTSD symptoms at 3 months. Similarly, Halligan, Michael, Clark & Ehlers (2003) reported narrative disorganisation in victims of trauma was associated with PTSD severity at 1 and 6 months, although it was not related to symptom change. In contrast to Amir *et al.* (1998), Zoellner, Alzarez-Conrad and Foa (2002) found that a high peri-traumatic dissociation group had narratives with a lower reading ease but higher reading level compared to a group of people who experienced low levels of dissociation during trauma. The findings of Gray and Lombardo (2001) were inconsistent with the memory fragmentation hypothesis, with no differences in reading level and ease in the narratives of people with and without PTSD, after controlling for general language ability. There were also no differences between trauma, unpleasant and pleasant narratives within and between the two groups, although the trauma and PTSD accounts tended to be longer. In line with these findings, Porter and Birt (2001) found no difference in the coherence of accounts of traumatic and positive memories provided by 306 students using a single item rating. However, this study did not have an

appropriate control group, as it may be that the high levels of arousal experienced during positive events also disrupted memory processing.

These studies have led some authors to propose that memory for significant events, whether positive or negative, may be unusually accurate and stable not fragmented. This is reflected by the phenomena of "flashbulb memories" or "eyewitness" research, where people demonstrate very accurate recall for events such as the assassination of President Kennedy, particularly for central compared to peripheral details (Bohannon, 1988, 1992; Christianson, 1992; Shobe & Kihlstrom, 1997). However, it may be that these types of events are less personally significant and intense than trauma memories, thereby being less likely to disrupt cognitive processing at encoding and retrieval. Indeed, it seems that individuals with PTSD may have difficulty accessing even central details, and experience intrusive memories of peripheral stimuli that are temporally associated with the worst moments of trauma (see Ehlers *et al.*, 2002).

In a study attempting to more directly operationalise the concepts relevant to trauma memory, Harvey & Bryant (1999) coded narratives provided by people with and without ASD for memory related attributes (disorganisation, dissociation and threat). They found that the narratives of the ASD group were characterised by more disorganisation, dissociation and threat, and that there were associations between memory attributes and post-traumatic stress symptoms.

To address the impact of assessment approach, two studies examined the relationship between peri-traumatic dissociation (using the Peritraumatic Dissociative Experiences

Questionnaire, PDEQ, Marmar *et al.*, 1997) and memory fragmentation through participant report and task performance, allowing for comparison of subjective and objective memory fragmentation. Kindt and van den Hout (2002) asked non-clinical participants (n = 40) to watch an extremely aversive film, then complete a sequential memory task (either cued or free recall) and answer questions about their memory for the film. When asked to put clips of the film in order for the memory task, participants obtained ratings indicative of less fragmentation than when they subjectively assessed the extent to which their recollections consisted of "snap-shots" of the film. Kindt, van den Hout and Buck (2005) replicated these findings, in a study comparing people scoring high (n = 25) and low (n = 25) on trait dissociation. High trait dissociators experienced more dissociation during the film, although this was unrelated to actual memory disruption (assessed by a free recall task). However, there was a small correlation with subjective memory fragmentation. These studies suggest that subjective memory fragmentation may be relatively more impaired than objective recall.

Another approach to examining fragmentation and account coherence is to assess change over the course of exposure therapy for PTSD. Foa, Molnar and Cashman (1995) examined narratives of sexual assault given by people (n = 14) at the beginning and end of exposure therapy for PTSD. Exposure therapy consists of individuals describing their trauma experience in the present tense, particularly focusing on the sensory-perceptual aspects and is hypothesised to facilitate cognitive processing and integration of trauma memory. The authors coded the narratives according to organisation, repetition and cognitive-affective features. At the end of therapy, the

narratives were longer, had less concrete details and more organized thoughts. Also, reductions in memory fragmentation (assessed by repetitions) were associated with improvements in PTSD symptoms and increased organisation in thoughts was related to decreased levels of depression. Van Minnen, Wessel, Dijkstra & Roelofs (2002) compared people with PTSD who did and did not improve over the course of therapy, using the same methodology as Foa *et al.* (1995). They concluded that both groups demonstrated reductions in account incoherence, although the improved group showed a greater decrease in disorganised thoughts. The overall improvement in narratives led the authors to suggest the changes were an artefact of the exposure procedure not a reflection of trauma memory.

On balance, research appears to indicate that generative retrieval processes are disrupted in trauma memory, resulting in fragmented recollections of events. Inconsistent findings have also been reviewed, which seem to be largely attributable to methodological difficulties. Of concern to this review, when rape victims are asked to recollect what happened it appears that their accounts of trauma may be more fragmented, thereby increasing the likelihood of attrition.

The Impact of Direct Retrieval on Attrition

If direct, or involuntary, retrieval processes are enhanced in trauma memory then it would be expected that people would experience more intrusive sensory-perceptual imagery following rape. The wealth of studies highlighting the occurrence of intrusive sensory-perceptual imagery in PTSD is consistent with the enhanced direct retrieval hypothesis (see Brewin & Holmes, 2003). It therefore seems that when victims report

rape to the police they may experience intrusions of their experience, which will be triggered by the numerous trauma-related cues that are likely to be present during interview. These will disrupt cognition and give rise to avoidance strategies, further impairing people's ability to provide the police with a coherent account of what happened. Whilst there is a lack of evidence specifically examining direct retrieval in the context of attrition, research has used objective and subjective assessments to investigate enhanced, sensory-perceptual retrieval of trauma memory.

Self-report studies suggest a dominance of sensory-perceptual information in trauma memory, with findings demonstrating the relationship between sensory memory and PTSD severity (Berntsen *et al.*, 2003; Halligan *et al*,, 2002; Rubin *et al.*, 2004, Van der Kolk & Fisler, 1995). In a clinical study, Reynolds & Brewin (1998) explored the nature of intrusive cognitions (intrusive memories, evaluative thoughts and elaborative thoughts) in matched samples of depressed people, people with PTSD (with or without depression) and people without mental health problems. Ninety eight participants were asked about the phenomenology of their most frequent trauma-related cognition at present and in the aftermath of the event. The PTSD group experienced the most intrusive memories currently, and rated their cognitions as more intrusive and unacceptable. They tended to manage them by using suppression, although this was also rated as the most ineffective coping strategy. In demonstrating changes in direct retrieval as a result of therapy, Hackmann, Ehlers, Speckens and Clark (2004) found that individuals with PTSD (n = 44) experienced intrusions of trauma which decreased and were involuntarily triggered less often over the course of the intervention, although participants could still intentionally recall what happened to them during the event. In

highlighting the interaction between impaired generative retrieval and enhanced direct retrieval, Engelhard, van den Hout, Kindt, Arntz and Schouten (2003) found that the association between self-reported peri-traumatic dissociation and PTSD following pregnancy loss was mediated by subjective fragmented memory and thought suppression in a sample of 126 women.

As mentioned earlier, there has been no research directly examining the impact of post-traumatic psychological reactions on disclosure in the criminal justice system. However, indirect support is provided by a study examining how these processes impact on asylum seekers (n = 27) disclosing during Home Office interviews (Bögner, Herhily & Brewin, 2007). The majority of participants reported difficulty disclosing, and this was significantly harder for those that had experienced sexual violence. Disclosure difficulty was associated with higher levels of PTSD symptoms, shame, depression and dissociation during the interview. The sexual violence group also experienced significantly more dissociation, shame and PTSD symptoms (particularly avoidance) than those with no history of sexual violence, although these factors did not account for the difference in self-reported disclosure difficulty between the groups. Overall, the study suggests that trauma-related psychological processes may inhibit disclosure, particularly in the context of rape.

Studies examining narratives have also generally supported the view that trauma results in more intense sensory-perceptual memories. Alvarez-Conrad, Zoellner & Foa (2001) assessed the prevalence of sensory quality of words in narratives provided during therapy in 28 women with PTSD. The occurrence of threat related words (i.e.

less vivid and contained less sensory information. Bryne *et al.* (2001) also found that participants reported their trauma and negative memories to have less sensory detail than positive experiences. In the Tromp *et al.* (1995) trauma memories were reported to be less associated with reliving than memories for other events. However, these findings may be attributable to methodological difficulties, which will be discussed in more detail below.

In summary, there is a wealth of evidence suggesting that trauma memory is characterised by enhanced direct or involuntary retrieval which means that rape victims are likely to experience intrusive, sensory-perceptual imagery when reporting their assault to the police. These intrusions may impair their ability to tell the police what happened, and therefore play a role in attrition.

The Impact of Trauma Memory and PTSD on Attrition Summary

Overall, research investigating generative and direct retrieval in trauma memory suggests there are disruptions to both processes, and is consistent with theoretical models of autobiographical remembering and PTSD (Brewin *et al.*, 1996; Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000). The bulk of evidence appears to suggest that trauma memory is characterised by fragmented recall and intrusive recollections. Memories of rape may therefore impact on attrition due to their association with impaired deliberate (generative) and enhanced spontaneous (direct) recall. This seems particularly likely in the presence of PTSD, which occurs in approximately half of people who experience rape (Kessler *et al.,* 1995). The disruption to retrieval processes leads to incoherent, disorganized recollection and threatening, distressing intrusions of rape.

This is likely to directly influence evidential factors and also indirectly impact on other variables such as victim withdrawal, as people may feel they are not believed if they cannot provide a coherent account of what happened. The impact of trauma on memory and retrieval will be mediated by a number of factors; time elapsed since trauma and degree of cognitive integration both appear to have a significant influence (Hackman & Holmes, 2004). In the context of rape, it appears that the high rates of PTSD, the pressure on victims to report the crime as soon as possible and numerous trauma-related cues present during disclosure are likely to magnify impaired generative and enhanced direct retrieval processes, further impeding victims' ability to recollect what happened.

It is noted that inconsistent results have also been found, but may be explained by a number of methodological concerns. The way in which key concepts are defined, operationalised and measured is likely to have a significant impact on the findings. For example, whether participants are asked to reflect on or provide an account of their trauma memory may be influenced by disclosure issues and linguistic ability. There is substantial variation in the events considered and the characteristics of samples, with much of the research lacking adequate control conditions. Studies often do not make an explicit distinction between voluntary and involuntary retrieval, and vary in the extent to which they evoke these processes. For example, if participants are asked to deliberately recall trauma memory, their report of this experience may not capture involuntary, intrusive retrieval. It is also difficult to tease out the relative contributions of encoding and retrieval mechanisms, such as whether fragmented memory is actually indicative of impaired retrieval. It seems that explicitly distinguishing between

generative and direct retrieval, and separately measuring memory fragmentation and account coherence may help to address these issues.

Directions for Further Research

A recent report by the police recognised the obstacles to disclosure faced by victims of rape, and highlighted the tension between meeting the needs of the investigation and the victim (HMCPS & HMIC, 2007). However, to date there has been no research specifically examining the impact of post-traumatic psychological reactions on rape victims' experience of the criminal justice process and attrition. This seems pertinent given concerns that only 8% of cases result in conviction and that the criminal justice system does not accommodate the impact of mental health difficulties that are likely to be experienced by a significant proportion of victims of rape (Frazier & Haney, 1996; Office for Criminal Justice Reform, 2006; Kelly *et al.*, 2005). It may be that research evidence could be used to inform police training and the criminal justice processing of rape. Given the findings reviewed, it seems that exploring the nature of generative (deliberate) retrieval, direct (spontaneous) retrieval and other post-traumatic reactions (e.g. avoidance) when victims report rape may facilitate understanding in this area.

Conclusion

This literature review has considered the factors that may contribute to attrition of rape cases. This is particularly pertinent given the Government's increased efforts to improve the conviction rate. It has been proposed that common trauma-related psychological reactions to rape may have a detrimental impact on cases progressing through the criminal justice system, given the emphasis on victims' ability to recollect coherent accounts of trauma. More specifically, impaired deliberate (generative) recall

and enhanced spontaneous (direct) retrieval of trauma memories may play a role, particularly in the presence of PTSD, as they result in fragmented recollections of rape and intrusive, sensory-perceptual imagery. Developing our understanding of the impact of these processes on attrition may ultimately assist professionals in improving the criminal justice processing of rape.

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Part Two: Empirical Paper

Do Trauma Memory and Post-traumatic Stress Symptoms Play a Role in the Experience of Reporting Sexual Assault during Police Interviews?

Abstract

Despite concern about the low conviction rate for sexual assault, scant research has examined the impact of trauma-related psychological processes on attrition (Kelly, Lovett & Regan, 2005). Victims of sexual assault (N = 22) completed questionnaires about their traumatic reactions and their experience of police interviews. People with higher levels of peri-traumatic dissociation and more fragmented memories of trauma reported giving more incoherent accounts of assault, and perceived themselves to be less likely to proceed with their cases. Participants reported experiencing intrusions, avoidance and some difficulty recalling trauma during police interviews. However, these did not mediate the relationship between memory fragmentation and account incoherence. The findings suggest that trauma-related processes may play a role in the attrition of rape cases.

DO TRAUMA MEMORY AND POST-TRAUMATIC STRESS SYMPTOMS PLAY A ROLE IN THE EXPERIENCE OF REPORTING SEXUAL ASSAULT DURING POLICE INTERVIEWS?

There is a high rate of attrition of sexual assault cases in the criminal justice system, particularly at the investigative stage, with a recent study indicating that only 8% of reported cases result in successful prosecution (Kelly, Lovett & Regan, 2005). This has led to increased Government efforts to improve conviction rates (Office for Criminal Justice Reform, 2006). The importance of understanding the role of mental health difficulties in the low conviction rate has been emphasised, given that they increase the risk of experiencing sexual assault (Mueser *et al.*, 1998; Stanko, Obsborn & Paddick, 2005) and mental health difficulties often occur as a result of sexual assault (Creamer, Burgess & McFarlane, 2001; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

The impact of trauma on cognitive processing and related psychological difficulties is well-established (Brewin & Holmes, 2003; Stanko *et al.*, 2005). However, there has been little investigation of whether these post-traumatic psychological reactions impact upon victims' experiences of the criminal justice system. This study will therefore focus on examining victims' perception of the role of memory and symptoms of Post-traumatic Stress Disorder (PTSD) in their experience of being interviewed by the police when they report sexual assault.

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phenomenology of PTSD (Brewin & Holmes, 2003; van der Kolk & van der Hart, 1991). Conversely, victims are expected to be able to provide accurate and consistent recollections of their trauma experience in the criminal justice system. Thus, whilst trauma memory has been found to be incoherent, the legal system questions victims' credibility when they cannot provide a consistent account of what happened. Indeed, cases are less likely to be prosecuted when victims are unable to provide coherent recollections of their experiences (Conway, 2006; Gregory & Lees, 1996; Jordan, 2004; Kelly *et al.*, 2005; Office for Criminal Justice Reform, 2006; Rose and Randall, 1982). Understanding the processes underlying trauma memory formation and retrieval may therefore present a promising new direction in addressing attrition in sexual assault cases.

Trauma Memory Formation

Traumatic events result in distress and arousal, which lead to disruptions in cognitive processing. Peri-traumatic dissociation (characterised by transient changes in sensory-perceptual experience such as depersonalisation, narrowed attention and confusion) is a common reaction to trauma, and is associated with increased levels of distress and arousal (see Foa & Hearst-Ikeda, 1996, for a review; Marmar, Weiss & Metzler, 1997). These cognitive-affective processes are proposed to alter encoding of memory (Harvey, Bryant & Dang, 1998; Krystal, Southwick & Charney, 1995; Zoellner, Alvarez-Conrad & Foa, 2002). Cognitive theorists propose that trauma is subject to a more bottom-up or data-driven processing style as it is threatening and inconsistent with previous experience (Brewin, Dalgleish & Joseph, 1996; Christianson, 1984; Conway & Pleydell-Pearce, 2000; Easterbrook, 1959; Ehlers & Clark, 2000; Mandler, 1975; Roediger, 1990; van der Kolk & Fisler, 1995). This processing style prioritises the encoding of sensory-perceptual details over

contextual information. As autobiographical memory is dependent on information being contextualised, this bottom-up processing style results in fragmented, vivid memories being formed (Conway & Pleydell-Pearce, 2000; Spiegel, 2006).

Trauma Memory Retrieval

Trauma memory retrieval may be affected due to the disruption to memory formation. To consider this suggestion, the processes underlying retrieval will be reviewed according to Conway and colleagues' cognitive-motivational model of autobiographical remembering (Conway, 1997; Conway, 2001; Conway & Holmes, 2005; Conway, Meares & Standart, 2004; Conway & Pleydell-Pearce, 2000).

Conway's model focuses on how autobiographical memories are constructed from stored information. This "knowledge base" is extremely sensitive to being triggered by stimuli associated with stored information, and so there is a constantly changing pattern of active material. Access to the knowledge base is directed by a putative goal-orientated "working self", and together they form the "self-memory system" (SMS). Autobiographical memories are therefore formed when the SMS incorporates current goals with a pattern of activation in the knowledge base. The model postulates two routes for the retrieval of memories, generative and direct, that differ by the extent to which they are influenced by the control processes of SMS.

Generative and Direct Retrieval

Generative retrieval is the process by which memory is intentionally or deliberately constructed (such as when victims attempt to recall an account of their sexual assault experience) whereas direct retrieval is when memory comes to mind

spontaneously or intrudes into awareness without intention to recall (for instance when victims experience intrusive sensory-perceptual imagery of trauma). In the former, the intention to recall an event results in a retrieval cycle where the knowledge base is searched for all information relevant to the formation of the memory. Conversely, direct retrieval occurs when sensory-perceptual information in the knowledge base is spontaneously triggered by matching stimuli, resulting in involuntary memories. Whilst the SMS usually acts to inhibit unintentional activation of the knowledge base if it is inconsistent with the goals of the self, the mechanism is sometimes ineffective and results in direct retrieval. Involuntary memories occur more often when people are distracted or stressed, suggesting that the control processes are dependent on processing capacity (Conway, 1997).

PTSD

Direct retrieval of trauma memory seems to be particularly common in Post-Traumatic Stress Disorder (PTSD). The defining feature of PTSD is re-experiencing, which consists of recurring, vivid and intrusive imagery of trauma. Consistent with Conway and colleagues' model of autobiographical memory construction, it is hypothesised that because trauma memory is poorly elaborated and contextualised, sensory-perceptual intrusions can be unintentionally triggered by stimuli associated with events (Brewin, Dalgleish & Joseph, 1996; Ehlers & Clark, 2000). Whilst most people experience intrusions in the immediate aftermath of trauma these usually decrease as the event is elaborated and integrated into autobiographical memory. However, it is proposed that intrusions will persist in a subgroup of individuals because they attempt to reduce the associated threat through the use of avoidance strategies. These paradoxically serve to maintain re-experiencing as they prevent cognitive processing and integration of intrusive imagery into autobiographical

memory. A diagnosis of PTSD is therefore only made a month after trauma if symptoms persist, suggesting that adaptive memory integration has not occurred. The impact of sexual assault on memory therefore leaves individuals vulnerable to developing PTSD. Indeed, the rate of PTSD associated with sexual assault is particularly high compared to other traumas, with approximately half of individuals meeting diagnostic criteria (Kessler, Berguind, Demler, Jin & Walters, 2005; Lee & Young, 2001; Perkonigg, Kessler, Stortz & Wittchen, 2000).

The Impact of Trauma Memory and Post-traumatic Stress Symptoms on Victims' Experience of Reporting Sexual Assault

The memory-related processes described may impact upon victims' experience when reporting sexual assault. First, limited encoding of trauma could result in generative or deliberate retrieval being impaired, leading to the construction of incoherent memories of assault. Second, trauma memories tend to consist primarily of sensory-perceptual information that could be readily triggered by cues present during police interview, potentially resulting in more direct or spontaneous retrieval. The subsequent affect-laden intrusive memories may then disrupt cognition and reinstate threat-related cognitive processing, thereby impairing individuals' ability to provide the police with a clear account of their assault experience. Third, individuals may attempt to reduce the threat associated with trauma memory and related cues, resulting in experiential and behavioural avoidance strategies occurring during the interview. This may further inhibit their ability to explain to the police what happened to them. The severity of intrusions and avoidance during an interview is likely to increase in individuals who are vulnerable to later developing symptoms of PTSD, and they are likely to have particular difficultly in providing the police with a coherent account of their sexual assault.

Preliminary support for the impaired generative retrieval hypothesis comes from studies examining the nature of trauma narratives. Research using subjective and objective assessment has found that trauma recollections and accounts are more fragmented and incoherent than narratives of everyday memories, particularly in the context of trauma-related psychopathology (Amir, Stafford, Freshman & Foa, 1998; Foa, Molnar & Cashman, 1995; Foa & Riggs, 1993; Tromp, Figueredo, Bell, Tharan & Tromp, 1995; Halligan, Clark & Ehlers, 2002; van der Kolk & Fisler, 1995). However, there are also inconsistent findings with studies concluding that trauma memory is not distinct from other memories or that it is recollected better than everyday memory (Berntsen, Willert & Rubin, 2003; Gray & Lombardo; Porter & Birt, 2001; Rubin, Feldman & Beckham, 2004).

In relation to the direct retrieval hypothesis, there is a wealth of evidence using self-report and objective assessment suggesting that individuals will experience intrusive sensory-perceptual imagery in the aftermath of trauma, even if they do not develop PTSD (Brewin & Holmes, 2003). Engelhard, van den Hout, Kindt, Arntz and Schouten (2003) demonstrated the role of poorly elaborated trauma memory in enhanced direct retrieval in a sample of 126 women following pregnancy loss. An association between self-reported peri-traumatic dissociation and PTSD was identified, and found to be mediated by subjective memory fragmentation and thought suppression. However, some authors have argued that trauma memory consists of less vivid, sensory-perceptual information than other memories (Bryne, Hyman & Scott, 2001; Porter & Birt, 2001).

The bulk of evidence seems to support the impaired generative retrieval and enhanced direct retrieval hypothesis. Whilst there are some inconsistent findings, it

appears that these may be due to methodological difficulties. There is significant variation in which key concepts are defined, operationalised and measured, such as whether participants are asked to reflect on their memory or produce a written narrative. Studies have tended to not make a distinction between involuntary and voluntary retrieval, with insufficient consideration of what processes are evoked by the methodology used. For example, enhanced direct retrieval may not be captured when participants are asked to deliberately recollect trauma memory. It therefore seems separately assessing direct and generative retrieval processes may help to address these concerns.

To date, there have been no studies investigating the impact of post-traumatic psychological processes on victims' experience of reporting sexual assault during police interviews. In the most related study, PTSD (specifically avoidance) was associated with difficulty disclosing in a Home Office interview, particularly if the disclosure involved sexual violence (Bögner, Herhily & Brewin, 2007). This study of 27 asylum seekers suggests that PTSD symptoms (and associated impaired memory formation and retrieval processes) have a detrimental impact on the reporting of events. The current study aims to understand the impact of self-reported psychological processes associated with sexual assault on victims' perceived experience of police interviews. It is proposed that disruptions in the processes underlying memory formation and retrieval may decrease victims' perceived likelihood of proceeding through the criminal justice system through their impact on account incoherence, particularly in individuals vulnerable to experiencing PTSD symptoms.

The hypotheses are:

1. Increased peri-traumatic dissociation will be associated with more fragmented memory of sexual assault, which in turn will be associated with increasingly incoherent accounts of trauma being provided during police interview.

2. Participants will report intrusions, avoidance strategies and generative retrieval difficulty during the police interview, and these trauma-related psychological processes will mediate the relationship between fragmented memory and account incoherence.

3. Increased intrusions and avoidance strategies will be associated with more PTSD re-experiencing and PTSD avoidance symptoms respectively.

4. Increased account incoherence will be associated with a decrease in victims' perceived likelihood of proceeding with cases.

Method

The research was a joint project with the Maddox (2008) study, "The Role of Shame, Self-Blame and PTSD in Attrition of Rape Cases: Victim and Police Perspectives" (see Appendix A for a description of the contributions to the research).

Participants

Participants (both men and women) were eligible for the study if they had experienced sexual assault within the past eighteen months and reported it to the police, and if they had sufficient command of English. The participants were initially recruited from a Sexual Assault Referral Centre (SARC). However, recruitment was terminated due to the Crown Prosecution Service's concern that the information disclosed during the research assessment might jeopardise the likelihood of cases

resulting in conviction (see Chapter 3, Critical Appraisal for further discussion of recruitment issues). The remainder of the participants completed the research assessment as an online survey, as this ensured anonymity and could not impact on the criminal justice process.

The power calculation was based on a multiple regression model as this was the main planned analysis. It was based on four independent variables (memory fragmentation, interview intrusions, interview avoidance strategies and generative retrieval difficulty during interview). There was no existing evidence on which the effect size could be based. However, a sample size of 50 participants has 80% power to detect medium-large effects with four independent variables at a 0.05 significance level (Cohen, 1992). This was deemed to be feasible number to recruit and an appropriate effect size. However, the final sample obtained consisted of 22 participants (n = 7 interview participants and n = 15 Internet participants). The sample size was therefore substantially lower than indicated by the power analysis, because of the significant organisational barriers to recruitment. These were largely concerned with the CPS' concern that participation was anonymous.

Ethics

Ethical approval was obtained from the London-Surrey Borders Ethics Committee for the first stage of recruitment at the SARC. The Internet survey was approved by the University College London Ethics Committee (see Appendix B).

Procedure

Participants recruited from the SARC were introduced to the study through posters or by clinical staff (see Appendix C for interview study recruitment documents). If

they expressed an interest and consented, they were then contacted by the researchers to discuss the study. Participants who gave informed consent then completed the research assessment at the SARC. It consisted of a battery of questionnaires, which took approximately an hour to complete. The last section was a brief semi-structured interview. All interviews were audio-taped and later transcribed.

For the Internet survey, participants were recruited through posters displayed in universities, on websites or by support services for people who have been sexually assaulted. The poster displayed the web address for the study, for which the homepage included the information sheet and consent form (see Appendix D for Internet survey recruitment documents). An email address was also provided so that potential participants could discuss any concerns with the researchers before deciding whether to participate. The Internet survey was designed using online questionnaire software (Bristol Online Surveys, 2003) which is widely used in psychological research. The Internet is an established method for data collection, and there is support for the validity of this approach (Birnbaum, 2001; Schmidt, 1997; Smith & Leigh, 1997). The survey consisted of the same battery of questionnaires used in the SARC study, with the semi-structured interview at the end of the assessment consisting of a series of open-ended questions (see Appendix E for an example page of the Internet survey). Withdrawal reminder buttons were clearly displayed on every page of the online survey, so that participants could easily withdraw and ensure any information they provided was not included in the survey. The data collected was completely anonymous, as the software does not allow for collection of any personal data or electronic data that may identify the participant or their computer.

Measures

PTSD symptoms currently experienced by participants were assessed using the *Post-traumatic Diagnostic Scale* (PDS; Foa, Cashman, Jaycox & Perry, 1997, see Appendix G) to give an indication of both PTSD symptom severity and PTSD diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1994). An example item is "Having bad dreams or nightmares about the traumatic event". It consists of 17 items that correspond to each PTSD symptom criterion in DSM-IV, arranged according to the three symptom clusters (the 5 'Criterion B' items relate to re-experiencing, the 7 'Criterion C' items assess avoidance and the remaining 5 'Criterion D' items measure hyperarousal). Items are rated according to the extent which respondents are bothered by each symptom on a 4 point scale ('0 = Never' to '3 = 5 times per week or more/very severe/nearly always'). Ratings are summed to obtain overall symptom severity and severity of each symptom cluster, with higher scores indicating greater severity. Diagnostic status is indicated by assessing whether the minimum number of symptoms is endorsed for each symptom cluster as required by DSM-IV (1 re-experiencing, 3 avoidance and 2 hyperarousal symptoms). Symptom presence is determined by a score of 1 or above ('once a week/once in a while'). Acceptable psychometric properties have been demonstrated on the PDS, with high levels of internal consistency, test-retest reliability and construct validity being identified (Foa *et al.*, 1993; Foa *et al.*, 1997).

Criterion A, which assesses the magnitude of the traumatic experience according to 2 criteria, is measured by 5 items (rated 'yes' or 'no'). Criterion A1 is present if the person experienced, witnessed or was confronted with actual or threatened death or serious injury, or threat to the physical integrity of self or others. Criterion A2

specifies that the person's reaction to the event involved intense fear, horror and/or helplessness. There is a well-established debate about the necessity of criterion A to the diagnosis of PTSD (Brewin, Andrews & Rose, 2000; Mol & Arntz, 2005). Two criticisms are that that Criterion A1 focuses just on physical threat and does not incorporate psychological threats to the self and that Criterion A2 does not include other affective reactions that commonly occur during trauma and predict PTSD. This has led to the conclusion that it may be more appropriate to focus on the clinical significance of symptoms when considering diagnosis (Lee & Young, 2001). Functional impairment (Criterion E) is met if at least 1 of 9 items, referring to different domains of functioning (such as work, relationships and household chores) is rated as present (e.g. 'Please indicate if your problems have interfered with any of the following areas of your life'). PTSD diagnosis in this study will therefore be indicated by symptom criteria (Criterion B, C and D) and functional impairment (Criterion E), but not Criterion A, being present.

Peri-traumatic dissociation was assessed using the *Peritraumatic Dissociative Experiences Questionnaire, Self-Report Version* (PDEQ; Marmar, Weiss & Metzler, 1997, see Appendix F). This assesses the degree of dissociative experience at the time of trauma and in the immediate aftermath. For example, "My sense of time changed – things seemed to be happening in slow motion". It consists of 10 items rated on a 5 point Likert scale ('1 =Not at all true' to '5 = Extremely true'). Items are summed with higher scores indicating more severe levels of peri-traumatic dissociation. It is the most widely used measure of peri-traumatic dissociation, for which acceptable levels of construct validity and internal consistency have been demonstrated (Marmar, Metzler & Christian, 2004).

Memory fragmentation was assessed using a question from a study by Engelhard, van den Hout, Kindt, Artnz & Schouten (2003). The question ('How much does your memory of the sexual assault exist of fragmented pieces as opposed to a whole entity?') was rated on a 7 point scale, with higher scores indicating more fragmented memory ('0 = Not at all' to '6 = Extremely'). It was assessed both retrospectively for the police interview and currently, yielding two ratings.

Intrusions occurring during the police interview were subject to two assessments. The first measured the frequency of intrusions and the second measured the sensory-perceptual aspects of intrusions, to provide a detailed description of the experience of any intrusive imagery occurring during the police interview.

The frequency of intrusions about sexual assault experienced during the police interview was assessed using items adapted from the re-experiencing cluster of the Post-traumatic Diagnostic Scale (PDS; Foa *et al.*, 1997, see Appendix H questions 1 to 5 for the *PDS-interview intrusions*). The wording of items was changed so that PDS-interview intrusions questions referred specifically to 'sexual assault' instead of 'trauma' as in the PDS. Further, a question about the occurrence of bad dreams about trauma was changed from 'Having bad dreams...' to 'Feeling as if you were having a bad dream..'. An example item was 'Feeling emotionally upset when reminded of the sexual assault'. The PDS-interview intrusions measure consisted of 5 items that were rated on a 4-point scale ('0 = Not at all' to '3 = Almost always'). Ratings for each intrusion item were summed to create a total score, with higher scores indicating more frequent intrusions.

The sensory-perceptual aspects of intrusive imagery (i.e. emotional valence, extent of reliving and sensory vividness of intrusions) occurring during police interviews were assessed using questions selected from an intrusions protocol used in a previous study (Reynolds & Brewin, 1998, see Appendix I). The protocol first assessed the emotional valence of intrusions by asking participants to indicate how strongly they experienced emotions associated with intrusive memories and thoughts. The emotional valence section consisted of 11 items (e.g. sad, angry, guilty and disgusted) rated on percentage intensity, with higher scores indicating stronger emotions ('0 = Not at all' to '100 = Very strongly'). The reliving question ("When you experienced the memories or thoughts, did it feel like you were reliving the sexual assault or was it like looking back at the sexual assault in the past") consisted of a 100mm visual analogue scale which participants marked to indicate the extent of reliving associated with intrusions, which was later measured to indicate the intensity of reliving ('from 0 = Totally looking back at the past' to '100 = Totally reliving the experience'). The sensory vividness of intrusions question ("When the memories or thoughts came to mind were the details unclear or were they very vivid, i.e. were the images, sounds, smells or sensations very clear and familiar") was rated on a 3-point scale ('1 = Unclear', '2 = Some detail', '3 = Vivid'). Participants were also asked to provide an example of an intrusion they experienced. The instructions for identifying intrusions were adapted from existing trauma intrusion diaries (Holmes & Steel, 2003; Reynolds & Brewin, 1998).

Avoidance strategies occurring during the police interview were assessed using items adapted from the Post-traumatic Diagnostic Scale (PDS; Foa *et al.*, 1997, see Appendix H questions 6 to 11 for the *PDS interview-avoidance*). Four out of the 7 PDS avoidance questions were used: emotional numbness, feeling cut-off, partial

amnesia and avoiding thinking, feeling or talking about trauma. The final question was separated into 3 separate items to make a total of 6 PDS-interview avoidance items. All of the PDS-interview avoidance questions were adapted so that each item referred to sexual assault not trauma generally. For example, 'Trying not to think about the sexual assault'. The items were rated on a 4-point scale ('0 = Not at all' to '3 = Almost always'). Ratings for each avoidance item were summed to create a total score, with higher scores indicating more severe avoidance.

Generative retrieval difficulty or deliberate recall during the police interview was assessed using a question designed specifically for this study, which was developed in consultation with an expert in the field of trauma memory research (Conway, 2007). The question ('During the interview, when you were talking about the sexual assault, to what extent could you *deliberately recall* what happened?') was rated on a 6 point Likert scale ('0 = Not at all' to '5 = Totally'). For the purposes of the analysis, this item was reverse scored so that higher scores indicated more difficultly deliberately recalling sexual assault accounts.

Account incoherence was assessed by adapting the question used in the Engelhard *et al.* (2003) study. The question ('How much did your *account* of the sexual assault exist of fragmented pieces as opposed to a whole entity?') was rated on a 7 point Likert scale, with higher scores indicating more incoherent accounts of sexual assault ('0 = Not at all' to '6 = Extremely').

Participants' perceived likelihood of proceeding with the case was assessed using a question designed specifically for this study. The question ('How likely is it that you will proceed with the case?') was rated on a 6 point Likert scale ('0 = I will not

proceed' to '5 = I will definitely proceed'). The extent to which the police influenced this decision ('To what extent did the police influence your decision'?) was also assessed on a 6 point Likert scale ('0 = Not at all' to '5 = Totally').

Participants' experience of police interview was assessed using open-ended questions designed specially for the study (see Appendix J for the interview schedule). These aimed to elicit a qualitative description of the experience of being interviewed and included questions about how victims' felt during interview, the extent to which they could talk openly and the interviewer reaction. For example, "Can you start by telling me generally about your experience of the police interview? What happened and what was it like for you?" and "How did the interview process make you feel?"

Results

Analyses were conducted using the Statistical Package for the Social Sciences for Windows (SPSS, version 16.0, 2007). Prior to descriptive and statistical analysis all variables were examined for outlying values and the assumptions of multivariate analysis. Missing values were prorated where possible or otherwise excluded from the analysis. There were no more than 10% of cases missing for the pro-rated variables, which is an acceptable level. The standardised scores and box plots were inspected for outlying values and none were identified. Skewness and kurtosis statistics were all non-significant, indicating that the variables were sufficiently normally distributed. An alpha level of .05 for statistical significance was used for all tests. Significance test results are quoted as two-tailed probabilities.

Participants

The interview and Internet sub-samples were compared on demographic and clinical variables to examine whether the different methodologies resulted in sampling biases. The findings are shown in Table 2.1. There were no significant differences between the groups in sex, ethnicity, marital status, employment and months since assault. The Internet survey group scored slightly higher on PTSD symptom severity, although this difference did not reach significance. The Internet sample was significantly older than the participants who completed interviews at the SARC. Overall, the findings suggest that the groups were generally similar and the sample was not significantly biased by the study design.

Descriptive Statistics

The means and standard deviations (together with Pearson's correlations) for the trauma memory, PTSD, interview process and interview outcome variables are presented in Table 2.2. The descriptive statistics will first be discussed and the relationships between the study variables then considered.

Table 2.1. Demographic and symptom comparison of interview (n = 7) and Internet (n = 15) survey participants.

Variable	Variable category	Frequency/ mean (*SD*)		Statistic*	p
		Interview	Internet		
Sex	Women	6	15	-	.31
	Men	1	0		
Marital status	Relationship	1	5	-	.35
	Single	6	10		
Employment	Employed	6	13	-	1.00
	Unemployed	1	2		
Ethnicity	White	5	11	$\chi^2_{(2)} = 0.39$	.82
	Black	1	2		
	Asian	1	2		
Age	-	25.00 (3.32)	30.53 (7.94)	$t_{(19.92)} = 1.75$	.03**
Months since assault	-	7.42 (5.71)	6.93 (4.13)	$t_{(20)} = .232$	.81
PTSD symptom severity	-	33.14 (8.33)	38.47 (6.10)	$t_{(20)} = 1.68$	.10

* Fisher's test used for sex, marital status and employment as two or more cells had an expected cell count of less than 5.

** p-value for equal variances not assumed as p = .04 on the Levene test.

Table 2.2. Correlations between PTSD symptoms, trauma memory, psychological processes during interview and interview outcome.

Variable (range)				1	2	3	4	5	6	7	8
1. PTSD Reexperiencing (0 – 15)	*M*	9.22	*r*	-	-	-	-	-	-	-	-
	SD	3.28	*p*	-	-	-	-	-	-	-	-
2. PTSD avoidance (0 – 21)	*M*	15.77	*r*	.35	-	-	-	-	-	-	-
	SD	3.37	*p*	.11	-	-	-	-	-	-	-
3. Peri-traumatic Dissocation (0 – 50)	*M*	33.31	*r*	.27	.39	-	-	-	-	-	-
	SD	10.65	*p*	.22	.08	-	-	-	-	-	-
4. Memory fragmentation – police interview (0 – 6)	*M*	3.09	*r*	.10	.22	.58**	-	-	-	-	-
	SD	2.29	*p*	.66	.29	.01	-	-	-	-	-
5. Interview intrusions (0 – 15)	*M*	11.36	*r*	.24	-.01	-.26	.07	-	-	-	-
	SD	2.97	*p*	.29	.96	.24	.77	-	-	-	-
6. Interview avoidance (0 – 18)	*M*	11.23	*r*	.24	.28	.73***	.40	-.10	-	-	-
	SD	3.82	*p*	.28	.21	<.001	.07	.66	-	-	-
7. Generative retrieval difficulty (0 – 5)	*M*	1.63	*r*	-.19	.15	.02	-.10	-.24	.03	-	-
	SD	1.79	*p*	.40	.50	.94	.67	.28	.91	-	-

* $p < .05$ significance, ** $p < .01$, *** $p < .001$ significance

Table 2.2. Correlations between PTSD symptoms, trauma memory, psychological processes during interview and interview outcome.

Variable (range)				1 Re-exp.	2 Avoid.	3 Peri-diss.	4 Memory.	5 Intintrus.	6 Intavoid.	7 Genretri.	8 Acincoh.
8. Account incoherence (0 – 6)	*M*	2.91	*r*	-.02	.55**	.49*	.54**	-.01	.23	.04	-
	SD	2.27	*p*	.92	.01	.02	.01	.99	.30	.87	-
9. Likelihood of proceeding (0 – 5)	*M*	3.36	*r*	.02	-.18	-.60**	-.55**	.09	-.45*	.04	-.44*
	SD	2.01	*p*	.95	.43	.01	.01	.70	.04	.87	.04

* $p < .05$ significance, ** $p < .01$, *** $p < .001$ significance

Post-traumatic Stress Disorder Symptoms and Diagnosis

A diagnosis of PTSD was indicated in all participants (N = 22) with symptom criteria and functional impairment criteria being met on the PDS (Criterion B, C, D and E respectively). The majority of the sample met Criterion A (77.3%, n = 17), although a minority did not experience or witness actual or threatened injury or death (Criterion A1) (18.2%, n = 4) or feel fearful, horrified or helpless during the assault (Criterion A2) (4.5%, n = 1). The overall severity of PTSD symptoms fell into the moderate-severe category (M = 33.31, SD = 10.65) (Foa *et al.,* 1997). Symptom severity was fairly high in each of the symptom clusters (M = 11.77, SD = 2.50 for hyperarousal) (means and standard deviations for re-experiencing and avoidance are shown in Table 2.2). Overall, the sample appeared to be significantly affected by post-traumatic stress symptoms.

Peri-traumatic Dissociation and Trauma Memory

The mean ratings and standard deviations for peri-traumatic dissociation and trauma memory fragmentation during the police interview are shown in Table 2.2. The mean level of peri-traumatic dissociation in the sample was fairly high. Participants reported that, on average, their trauma memories were moderately fragmented at the police interview. The mean for current memory fragmentation was slightly lower (M = 2.31, SD = 2.23), although this difference was not significant ($t_{(20)}$ = 1.49, p = .15). This data pattern may indicate that some emotional processing had occurred since participants reported sexual assault to the police, leading to slightly more coherent memories.

Psychological Processes during Police Interview

Severity of interview intrusions, avoidance strategies and generative retrieval difficulty will be considered (see Table 2.2.). The results indicated that participants were experiencing fairly high levels of both intrusions and avoidance strategies during police interview. The sample reported some difficulty deliberately recalling an account of their sexual assault experience, indicating that they were affected by intentional retrieval difficultly but this was not particularly severe.

In addition to assessing the severity of interview intrusions, additional descriptions of intrusive imagery were elicited using questions from the Reynolds and Brewin (1998) protocol. Participants were asked to provide a detailed description of the sensory-perceptual aspects of any identified intrusive imagery occurring during the police interview. Two participants indicated they did not experience any intrusions during the police interview, thus the following data relates to 20 participants. The participants were first asked to provide an example of an intrusion that they experienced. Examples given by participants included: "The feeling of insertion when facing the other way, it was brief but very vivid", "When I had the video interview, I could remember when he was hitting me in the face and shouting at me", "Holding the knife at my throat" and "I always see the blood on my trousers and on the furniture."

The mean intensity of re-experiencing associated with interview intrusions was 64.2% (*SD* = 28.66), indicating that intrusions tended to be accompanied by a sense of reliving aspects of sexual assault. However, there was a large variation indicating that participants also experienced intrusions that were more like

autobiographical memories. Similarly, most participants reported that their intrusions were vivid (60.0%) although imagery that just had some detail (35.0%) or was unclear (5.0%) was also reported. The emotions that accompanied the intrusions are recorded in Table 2.3. The presence and mean intensity of emotions was fairly high, suggesting that the intrusions were accompanied by a range of intense affect.

Interview Outcome

Overall, participants reported that the accounts of sexual assault they provided to the police were moderately incoherent, suggesting that they had difficulty providing a consistent account of their experiences during police interview (see Table 2.2). Participants indicated that they were moderately likely to proceed with the case, and reported that the police had a slight to moderate influence on their decision (M = 2.50, SD = 2.12).

Summary of Descriptive Statistics

Overall, participants reported that they dissociated during the sexual assault and had moderately fragmented memories of their trauma experience. They were currently experiencing high levels of PTSD symptoms. When interviewed by the police, they experienced intrusions, avoidance strategies and had some difficulty deliberately recalling what happened during trauma. They reported that they provided accounts of their sexual assault experience that were moderately incoherent. The sample was positive about proceeding through the criminal justice system, on average stating that they were moderately sure they would pursue a conviction.

Table 2.3. The occurrence and intensity of emotions associated with intrusions during police interview.

Emotion	Participants experiencing intrusive emotion (*n*)	Mean intensity (%)	*SD*
Sadness	18	86.94	21.22
Anger	19	70.26	28.60
Guilt	15	79.00	24.94
Fear	17	65.00	38.81
Surprise	17	67.94	31.18
Helplessness	19	83.68	26.92
Horror	17	88.82	14.09
Disgust	17	78.17	33.73
Shame	15	88.66	15.05
Unreal	18	88.61	16.61
Overall	20	70.47	20.97

The Relationship between Trauma Memory, Post-traumatic Stress Symptoms, Psychological Processes occurring during Interview and Interview Outcome

The hypothesised associations between the study variables were examined using Pearson's correlations (see Table 2.2). This data will be considered in relation to each of the research hypotheses below.

Hypothesis 1

As predicted, a significant positive correlation was found between peri-traumatic dissociation and fragmented memory at the police interview (see Table 2.2.) Further, a significant positive relationship was also identified between fragmented memory and account incoherence. This indicates that when memories are fragmented, people report it is harder to provide coherent accounts of them to the police.

Hypothesis 2

As discussed earlier, the descriptive data (see Table 2.2.) indicated that participants experienced moderate to severe intrusions, avoidance strategies and some generative retrieval difficulty during the interview, in line with the hypothesis that post-traumatic psychological reactions would occur when victims were interviewed by the police.

The mediating role of the interview processes (i.e. generative retrieval, intrusions and avoidance strategies) in the association between memory fragmentation and account coherence was investigated using a multiple regression model. As the sample size obtained was insufficient for the power calculation, it was decided to collapse the interview processes into one variable, 'post-traumatic interview processes', to increase the likelihood of detecting any effects that were present. The collapsed variable was calculated as the mean of the individual interview process variables.

The mediating role of interview processes was investigated according to Baron and Kenny's (1986) model. The model states that four criteria must be met to support the hypothesis that the interview processes mediated the relationship between fragmented memory and account incoherence. First, there must be a significant relationship between the independent variable of memory fragmentation and the dependent variable of the account incoherence. Second, there must be a significant association between memory fragmentation and the hypothesised mediator, interview processes (i.e. the mean of the generative retrieval, intrusions and avoidance strategies scores). Third, the potential mediator of post-traumatic interview processes should be significantly related with the dependent variable (account incoherence). Fourth, memory fragmentation should become a less significant or non-significant predictor of account incoherence when entered into the model with interview processes.

Whilst hypothesis 1 was supported, the results were not consistent with the prediction that interview processes would *mediate* the relationship between fragmented memory and account incoherence. The analysis confirmed the association between memory and account incoherence (B = .53, $t_{(20)}$ = 2.83, p = .01) and explained 28% of the variance in incoherence ratings. However, memory fragmentation did not significantly predict the post-traumatic interview processes (B = 7.38, $t_{(20)}$ = 13.37, p = .14). Closer inspection of the data indicated that fragmented memory was not related to interview intrusions or generative retrieval difficulty (see Table 2.2). In contrast, there was a stronger association between fragmented memory and avoidance strategies, although this did not reach significance. Overall, the hypothesis was therefore not supported as memory

disruption did not appear to give rise to more trauma-related processes occurring during the interview.

Hypothesis 3

The analysis indicated there were no significant relationships between symptoms of PTSD, and intrusions and avoidance occurring during interview. Whilst the observed relationships were in a consistent direction, the hypothesis that people with higher levels of PTSD symptoms would experience more intrusions and avoidance strategies during police interviews was therefore not supported.

Hypothesis 4

As predicted, there was a significant negative relationship between account incoherence and likelihood of proceeding, such that people were less likely to proceed if they provided the police with a more incoherent account of their sexual assault. Examination of the data indicated that likelihood of proceeding was also negatively associated with peri-traumatic dissociation and memory fragmentation. It was therefore decided to further explore the relationship between trauma memory processes, account incoherence and perceived likelihood of proceeding using a regression analysis.

This post-hoc analysis investigated whether the impact of memory fragmentation on likelihood of proceeding was mediated by account incoherence. Fragmented memory predicted 27% of the variation in victims' perceived likelihood of proceeding ratings (B = -.48, $t_{(20)} = 2.91$, $p = .01$) and 30% of the variance in account incoherence (B = .53, $t_{(20)} = 2.83$, $p = .01$). Further, account incoherence

explained 20% of the variance in likelihood of proceeding (B = -.39, $t_{(20)}$ = 2.20, p = .04). When account incoherence and memory fragmentation were entered into the model together, they accounted for 33% of the variance in likelihood of proceeding ($F_{(2,19)}$ = 4.66, p = .02). However, account incoherence did not remain a significant predictor of likelihood of proceeding (B = -.19, $t_{(20)}$ = 0.94, p = .36) and the impact of fragmented memory was also no longer significant (B = -.38, $t_{(20)}$ = 1.95, p = .07). This suggests that the relationship between memory fragmentation and perceived likelihood of proceeding was not mediated by the incoherence of accounts provided during police interviews.

Participants' Experience of Police Interview

The information elicited from the semi-structured interview for the SARC participants and the open-ended questions from Internet survey participants consisted of a brief summary of their experience of police interviews. The interviews with the SARC participants tended to last between 5 – 10 minutes and the Internet participants responses ranged from a few words to several sentences. These appeared to reflect the most salient or key features of participants' experience of being interviewed by the police, and did not include detailed information about the police interviews. The transcripts of the participants' responses to the open-ended questions were subjected to a thematic analysis (Braun & Clarke, 2006). This aimed to provide a more detailed understanding of the subjective experience of being interviewed by the police. The answers to the questions were reviewed and salient themes identified through an iterative process of grouping responses that seemed to be related.

Two dominant themes were noticed, which were defined as "positive" and "negative" experiences of police interview. It seemed that participants' experience of the police interview was fairly polarised, such that their answers tended to reflect only one of the themes. It appeared that most of the participants had a positive experience of the police interview, although negative experiences were still fairly common. The themes will be considered below in relation to the general experience of being interviewed, extent to which victims could talk openly and interviewer reactions. The feelings elicited by the interview will be discussed separately, as it seemed that the participants' responses reflected only one theme, "difficult emotions", regardless of whether their answers were characterised by a positive or negative experience of police interviews.

Positive Experiences of Police Interview

Participants whose experience of police interviews seemed to reflect the positive theme gave responses that indicated they felt supported when talking to the police. For example, "they were very informal, helpful and supportive", "the police made me feel it wasn't my mistake and understood I was angry that I didn't deserve what happened" and "the police were professional and caring".

Positive experience of interviews also seemed to be characterised by feeling more able to discuss sexual assault, such as participants stating, "I was upset but the police put me at ease and allowed me enough time to get everything I was trying to say out", "when in the interview the fact that the SOIT officer was so friendly and understanding made me feel at ease to speak very openly" and "I was very much able to talk openly, they listened and did not judge".

Appraisals of interviewer reactions tended to focus on whether victims felt they were believed. Participants whose experience was characterised by a positive theme reported that they were deemed credible by the police. For example, "I definitely felt believed", "he calmly told me he believed me" and "the interviewer reassured me that nothing I had done was an excuse for him to have raped me, this made me feel better about disclosing everything and being able to adequately describe my feelings, I felt supported and believed".

Negative Experiences of Police Interview

Conversely, participant responses that reflected the negative theme were characterised by a lack of support during police interviews. Examples of typical responses included "I felt pressured, they kept interrupting me and asking questions, I forgot where I was and couldn't remember what happened", "very formal and matter of fact" and "totally awful, I was made to feel the whole event was my fault".

Participants who had felt unsupported also had more difficulty talking to the police about sexual assault. For example, "I was ashamed to talk about some things", "it was hard for me to say what I wanted because I felt judged" and "it was very formal and very clinical, had to say very intrusive things, felt like I was a robot and could not even cry as I knew I was being watched by a DVD".

Participants with a negative experience of talking to the police tended to appraise the interviewers' reactions as either neutral or negative. Responses included comments such as "the interviewer stayed impartial and unaffected throughout the

interview", "I didn't feel believed", "neutral, professional, like I was on trial" and "the police made it very clear I was not believed".

Feelings Elicited during Police Interviews.

The feelings elicited during the police interview seemed to reflect one theme, "difficult emotions". Regardless of their experience of police interview, it appeared that all participants reported negative feelings when talking to the police. This is consistent with the high affective intensity of intrusions occurring during the interview and post-traumatic symptoms reported by the sample. It seemed that there were several salient sub-themes within this category. "Dissociative experience" was reflected in responses such as, "I went onto autopilot and floated through it" and "I felt as though I was reliving the whole rape again". "Fear" was characterised by answers like "anxious and panicky" and "scared". Finally, responses that seemed to be indicative of "shame" were "I felt guilt that I was the cause of the rape and embarrassed" and "dirty, guilty, horrible". Participants often reported more than one of the sub-themes, indicating a range of affective experience, such as "drained, emotional, numb, exposed and violated" and "ashamed, alone and scared". In summary, the responses highlight that the interviews were difficult for all participants even when they had a positive experience of reporting sexual assault to the police.

Discussion

The key findings were that, as predicted by hypothesis 1, participants who reported higher levels of peri-traumatic dissociation and trauma memory fragmentation perceived themselves to provide more incoherent accounts of sexual assault during police interviews. Moreover, in support of hypothesis 4, people with more

fragmented memories and incoherent accounts perceived themselves to be less likely to proceed through the criminal justice system. Hypothesis 2 was partially supported as participants reported fairly high levels of intrusions and avoidance during police interviews, although only some generative retrieval difficulty. However, these post-traumatic psychological reactions did not account for the relationship between fragmented memory and account incoherence. The results were inconclusive regarding the relationship between post-traumatic interview processes and clinical psychopathology, and so did not support hypothesis 3.

The study suggests that, contrary to the expectations of the criminal justice system, victims of sexual assault are likely to experience difficulty providing consistent recollections of their trauma experience (Conway, 2006; Office for Criminal Justice Reform, 2006). It seemed that this was particularly the case when individuals had higher levels of peri-traumatic dissociation and more fragmented memories of sexual assault, as is well-documented following trauma (Foa & Hearst-Ikeda, 1996; Brewin & Holmes, 2003). Participants experienced a high level of peri-traumatic dissociation comparable to other studies of sexual assault (Zoellner *et al.*, 2002). The extent of memory fragmentation reported was similar to in the Engelhard *et al.* (2003) study, although perhaps this was somewhat lower than expected as rates of PTSD, and therefore memory disruption, are higher in sexual assault than following pregnancy loss (Lee & Young, 2001). However, the finding that memories were moderately fragmented is consistent with the proposal that trauma disrupts memory processing (Brewin & Holmes, 2003).

Trauma memory processes and account incoherence were also associated with victims' perceived likelihood of proceeding with cases. Overall, the data suggest that psychological processes related to sexual assault may play a role in attrition (Kelly *et al.,* 2005; Office for Criminal Justice Reform, 2006). This study is the first, to our knowledge, to examine the impact of trauma-related psychological processes on the experience of police interviews. Whilst the hypotheses were only partially supported, the findings seem to suggest that considering trauma-related processes may be useful in improving the criminal justice processing of sexual assault, and potentially help to address attrition.

As predicted, victims experienced trauma-related processes during police interviews with the overall severity of intrusions and avoidance being fairly high. Their occurrence supports the proposal that trauma results in repeated cycles of enhanced direct retrieval and avoidance (Brewin *et al.*, 1996; Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000). The intrusions reported by participants appeared to reflect distressing and threatening sensory-perceptual experience, consistent with descriptions of re-experiencing symptoms in PTSD (Ehlers & Steil, 1995). Interestingly, emotions other than fear, helplessness and horror were common, consistent with the view that feelings which are not specified in Criterion A play a role in the development and maintenance of PTSD (Brewin *et al.*, 2000; Holmes, Grey & Young, 2005). Overall, the results suggest that people are likely to be affected by trauma-related processes when reporting sexual assault in police interviews.

The sample reported only some difficulty when intentionally recalling memories and inspection of the data revealed a significant proportion of participants had no retrieval difficulty. This is somewhat inconsistent with the impaired generative retrieval hypothesis and more in line with proposals that trauma is as well, if not better, remembered than everyday events (Berntsen, Willert & Rubin, 2003; Porter & Birt, 1981). Alternatively, it may be that the concept of generative retrieval was inadequately operationalised in the study. The self-report item tended to require further explanation during interviews to clarify the distinction between intentional and involuntary recollections. This may have affected the findings because it was not possible to verify the understanding of the question for the majority of the sample, as they completed the assessment on the Internet.

The intrusions described seemed largely analogous to the nature of re-experiencing symptoms in PTSD and, overall, there were fairly high levels of interview and current post-traumatic symptoms. However, interview intrusions and avoidance were not associated with PTSD re-experiencing and avoidance symptoms. It may be that the time discrepancy between the police interview and the research assessment meant that the interview processes were less related to current psychological difficulties. Alternatively, it may be that the sample size was insufficient to detect the associations between post-traumatic symptoms occurring during police interviews and at assessment, as the data was in a consistent direction with the hypothesised relationships.

The trauma-related interview processes were mainly unrelated to trauma memory or criminal justice outcomes, although there was some evidence that avoidance was

associated with memory fragmentation and likelihood of proceeding. More specifically, the lack of associations between the interview processes and account incoherence was inconsistent with previous research findings suggesting that post-traumatic psychological processes are associated with fragmented and disorganised accounts of trauma (Foa *et al.,* 1995; Halligan *et al.*, 2003). Whilst participants reported only some retrieval difficulty, they were significantly affected by intrusions and avoidance. It may be that the study therefore failed to fully capture the way in which trauma-related interview processes influence the criminal justice processing of sexual assault. Further investigation of intrusions and avoidance occurring during police interviews therefore seems warranted, particularly in relation to how high levels of avoidance impact on victims' experience of the criminal justice process.

The study did not establish the mechanisms through which psychological processes related to sexual assault impact on criminal justice outcomes. Trauma-related processes occurring during interview did not explain the impact of memory fragmentation on account incoherence; and post-hoc analysis also indicated that account incoherence did not mediate the relationship between memory fragmentation and likelihood of proceeding. Teasing apart the relative contributions of these mechanisms is likely to be complex and the small sample size may have meant that any relationships between the study variables were less likely to be identified.

Participants' experience of police interviews seemed to be either positive or negative. Most of the sample reported a positive experience, where they felt supported, believed and able to talk about what happened to them. Some

participants described a more negative experience, which was too formal, judgemental and difficult to talk openly. The predominantly positive experience of victims was encouraging and may demonstrate the effectiveness of recent initiatives to improve quality of care for people who have been assaulted (HMCPS & HMIC, 2007). Nonetheless, all participants experienced difficult emotions during the police interviews, which is consistent with the proposal that trauma-related psychological processes will impact upon the criminal justice process. Indeed, the participants' responses to the semi-structured interview supported the rationale for understanding the role of psychological processes in attrition, given the central role of affect in post-traumatic difficulties and its impact on memory (Brewin & Holmes, 2003).

A salient theme in the study was that participants were generally positive about proceeding with their cases and reported that the police had supported them in this decision. This data appears to be in marked contrast to national attrition rates, which indicate that approximately two thirds of cases would be lost at the investigative stage (Kelly *et al.,* 2005). It may be that as the majority of participants were engaged with specialist services for sexual assault the rates of victim withdrawal were lower in this sample than in the population, supporting the view that Sexual Assault Referral Centres improve the quality of service provided to victims (HMCPS & HMIC, 2007). This suggests that the sample could have been somewhat unrepresentative of people who have been sexually assaulted, and may not reflect the impact of trauma-related psychological processes on attrition for people who are not engaged with specialist services.

The research findings suggest that trauma-related processes should be considered within the criminal justice system. This may contribute to addressing the high attrition rate, and have more wide-reaching consequences for victims of sexual assault by reducing the detrimental impact of trauma on their mental health and functioning. It seems that thorough assessment of peri- and post-traumatic psychological reactions may assist the interpretation of evidence provided by victims, particularly with regard to judgements of credibility, and should be integrated into decisions about whether cases should proceed to court and how they are presented during the judicial process. Training professionals involved at all stages of the criminal justice system about these commonly occurring psychological processes may also improve the service provided to victims and criminal justice outcomes.

The findings should be considered in light of several limitations. The most significant was that the sample size was smaller than anticipated. The data was generally consistent with the hypotheses although not all reached significance. A retrospective power analysis indicated that the sample size (n = 22) had 80% power to detect large effects (r = .5) using a correlational design. It may be that effects were present for the hypotheses that were not supported but that there was insufficient power to detect them (e.g. the relationship between avoidance strategies occurring in the police interview and avoidance symptoms of PTSD). It would have been helpful to have a larger sample in order to be able to detect any relatively smaller effects if they were present.

Recruitment was significantly limited by the substantial organisational barriers within the criminal justice system. Recruitment was ceased due to the CPS's concern that

participation could jeopardise the likelihood of cases resulting in conviction. For example, they were concerned that the defence could use participant disclosures about having difficulty recalling aspects of trauma to question the prosecution's case. The CPS's concern therefore seemed to support the rationale for the research (i.e. that commonly occurring trauma memory related processes could paradoxically contribute to legal cases not resulting in successful prosecution). Whilst the CPS acknowledged the grounds for conducting the research, they understandably had to engage in defensive practice given the context of heightened concern about the low conviction rate for sexual assault. The recent focus on trying to improve conviction rates therefore seemed to ironically place the criminal justice system in a position where, in certain respects, it was even more difficult for them to understand and address attrition of sexual assault cases. It therefore seems that greater collaboration between academic, health and criminal justice services is imperative to ensure that progress can be made without jeopardising conviction rates. For example, it appeared that, despite the recruitment difficulties, the research process facilitated the criminal justice system's awareness of the potential role of trauma-related processes in attrition. The police and the CPS both acknowledged that it would be helpful to focus efforts on how to address obstacles to researching attrition in sexual assault.

Due to the recruitment difficulties, a further concern was that the sample may have not have been sufficiently representative of victims of sexual assault. For example, the rate of PTSD in the study was very high, perhaps because the vast majority of the sample was engaged with specialist sexual assault services (Lee & Young, 2001). People with more difficulties following trauma may be more likely to contact health services, and individuals with fewer problems may not have been included in

the sample. Participants were also at different stages in the investigative or prosecution process, such that some had already completed the criminal justice process whereas others were waiting to go to court or for the CPS to decide whether to prosecute. This meant that the assessment of criminal justice outcomes was sometimes based on actual case outcomes and at other times on subjective and prospective judgements of whether cases would proceed to court.

Due to the scarcity of research examining the role of trauma-related processes in attrition of sexual assault cases, there were difficulties in operationalising the key constructs. Psychometrically robust measures were not available for several of the variables (i.e. memory fragmentation, generative retrieval difficulty and account incoherence). Developing more valid and reliable measures of trauma memory and narratives seems key to making progress in understanding attrition in sexual assault. The measures of these concepts relied on subjective, retrospective assessments which may have impacted on reliability and validity. It was not possible to meet with victims at the time of police interviews to obtain the measures for the trauma memory variables, or to access victim statements so recollections of sexual assault could not be assessed more objectively. Even if these were available, the difficulties of assessing trauma memory and narrative organisation have been highlighted (O'Kearney & Perrott, 2006). Indeed, it seems there is a need for trauma memory and related narrative organisation to be more validly and reliably operationalised, perhaps with greater specificity regarding different aspects of coherence and their relationship to post-traumatic processes. For example, avoidance could be related to less detailed and more incomplete narratives, whereas intrusions may be associated with greater sensory-perceptual detail but more disorganisation. It was also not possible to obtain access to the actual case

outcomes, which further confounded the results due to the reliance on victims' subjective assessments.

The limitations described could be overcome by using a prospective, longitudinal design to examine victim's progress through the criminal justice system, which would also help to ensure a representative sample. It would be useful to develop more valid measures of trauma memory and related narratives (e.g. measuring both sensory-perceptual details and organisation) which could be assessed subjectively and objectively. Addressing the systemic constraints on research in this area seems central to facilitating these improvements, such as being able to recruit participants and access attrition outcome data.

In conclusion, this is the first study, to our knowledge, to demonstrate the impact of trauma memory related processes on victims' experience of police interviews when reporting sexual assault. Participants who reported higher levels of peri-traumatic dissociation and memory fragmentation perceived themselves to give more incoherent accounts of trauma and to be less likely to proceed with legal cases. This suggests that, contrary to the expectations of the criminal justice system, individuals will have difficulty providing coherent accounts of sexual assault which may then contribute to attrition. The impact of trauma-related psychological processes should therefore be considered in the criminal justice processing of sexual assault.

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Part Three: Critical Appraisal

PART THREE: CRITICAL APPRAISAL

When the opportunity to examine post-traumatic reactions in attrition of sexual assault cases first arose, I was attracted to doing a study which considered psychological processes in an applied setting. My previous research experience had a mainly cognitive theoretical approach, and it was appealing to investigate the impact of trauma-related processing within a broader context. The rationale for the study was also supported by the growing national interest in addressing attrition in rape cases, reflected in increased media and Government attention. However, the research process also highlighted the challenges to investigating sexual assault, particularly in the context of the criminal justice system. This critical appraisal will therefore consider the substantial organisational barriers to recruitment in the study. These posed the most significant challenge in conducting the work and so were the main focus of my personal and professional reflection on the research process.

The appraisal will first describe the socio-political setting of sexual assault and then outline the challenges to the study. The influence of context on the research process will be considered, and how this may have contributed to the significant delays in recruitment and to the methodology changes. The issues highlighted by the research will be reflected on, particularly in relation to how the challenges gave me a greater appreciation of the breath of the research context and the importance of collaborating with other agencies in order to develop clinical psychological knowledge and its application.

Considering Context: The Socio-Political Context of Sexual Assault

Beliefs about sexual assault or "rape myths" (see Part One, Literature Review for further discussion) have been found to be pervasive and influential in society, particularly in the criminal justice system (LaFree, 1981; Kelly, 2002; Tomlinson, 1999). Research has consistently demonstrated that beliefs about sexual assault significantly impact on the criminal justice process (Blair, 1985; Lees, 1996, 1997; Harris & Grace, 1999). Specifically, if victims do not meet expectations about how people should react to trauma, their credibility may be questioned by the public and the authorities. In the mid-eighties, the criminal justice processing of sexual assault came under more intense public and media scrutiny. This led to increased concern about attrition and the impact of beliefs about sexual violence, which cumulated in legislative reforms (Adler, 1987; Scott & Dickens, 1989; Temkin, 1987, 1997, 1999).

Following these legal changes, people who have been sexually assaulted are now more likely to report the crime, with service provision and the criminal justice processing of cases also improved (Adler, 1991; HMCPS & HMIC, 2007; Kelly, Lovett & Regan, 2005). Nonetheless, conviction rates remain low and unhelpful beliefs about sexual assault persist. Increased concern about attrition in the public, the criminal justice system and the Government was therefore a dominant theme in the research context. Whilst this supported the rationale for the study, it also paradoxically resulted in barriers to doing the research.

Challenges to the Study

At first, the research progressed well, with organisational and ethical approval obtained for the study. It was initially aimed to recruit the sample from a Sexual Assault Referral Centre (SARC), an initiative that was set up nationally in response to recent concerns about quality of victim care and attrition. SARCs are NHS services that provide victims with physical and mental health care; and liaise with the police to support the criminal justice process. They tend to be jointly funded by local police forces and primary care trusts. Whilst the effectiveness of SARCs has been demonstrated, the agencies involved in the research process were nonetheless situated within the aforementioned context of heightened concern about attrition and scrutiny of services for victims of sexual assault (HMCPS & HMIC, 2007). This resulted in several challenges to recruitment, as the progress of the study was restrained by the understandably defensive practice of the health and criminal justice services (see Appendix K for a timeline of the research process).

The Police and Victim Credibility

Recruitment for the study was about to commence when the first organisational barrier arose. As is standard procedure for all research based at the SARC, we registered the study with the Strategic Research Unit (SRU) at the Metropolitan Police Service, the department responsible for monitoring research conducted by external agencies. However, the SRU then raised concerns about the research which meant that recruitment could not begin. Their view was that the information from research assessments could be used by the defence during the judicial process, having a

detrimental impact on cases. More specifically, they thought that participant disclosure could jeopardise victim credibility and related evidence.

The SRU's concerns were intriguing as they suggested that there were similarities between the study hypotheses and the police's views about what factors contribute to attrition. For example, they highlighted that discrepancies in the recollections of trauma elicited by the police and in the research assessment could be used to question victim credibility, consistent with the prediction that trauma memory results in incoherent recall and plays a role in attrition (Brewin & Holmes, 2003; Office for Criminal Justice Reform, 2006). It therefore seemed that whilst there was agreement that victims may have difficulty providing consistent, coherent accounts of sexual assault, there were different responses from a research and criminal justice perspective. Whilst the study provided an opportunity to develop our understanding of attrition, from a police perspective it could serve to highlight factors that undermine victim credibility and thereby jeopardise individual cases. The SRU's concerns were therefore understandable given the police's motivation to improve conviction rates. Nonetheless, they also emphasised the potentially detrimental impact of inaccurate, unhelpful beliefs about reactions to sexual assault on victim credibility.

Once we had considered how to address the concerns and support the criminal justice process, the Head of the SRU was invited to a meeting to discuss the study. We responded to the concerns by highlighting that victims would not be asked to disclose objective information about the sexual assault, but rather their subjective post-traumatic reactions and experience of the police interview. Further, it was stressed

that the content of the assessment only reflected that which would be discussed in routine clinical care or personally by victims. Finally, we emphasised that the study had been designed in accordance with the Crown Prosecution Service's (CPS) guidelines regarding appropriate clinical practice in cases of sexual assault (CPS, 2005). The Head of the SRU then fortunately agreed to approve the study, on the condition that the research data could be disclosed to the CPS. Despite their agreement, there seemed to be a continued tension between maintaining victim credibility whilst also progressing our understanding of the role of post-traumatic reactions in attrition. This theme was salient throughout the study, and will be discussed below in relation to the concerns raised by the CPS.

Health Services and Gate-Keeping

Recruitment then commenced and it was anticipated there would be no significant difficulties to obtaining the sample given the high rate of referrals to the SARC. It was aimed to recruit two participants each week, based on a 50% consent rate from an estimated four new referrals to the service. However, the recruitment rate was significantly lower than anticipated, with only seven completed assessments over four months. Whilst the rate of consent once people were referred to the study by the SARC staff was high (with only one person declining to participate), the rate of referrals to the study was low compared to the number of new referrals to the SARCs each week.

Throughout this period, meetings were therefore held with the SARC staff involved in the research to try and address the obstacles to the first stage of recruitment (i.e.

when potential participants were introduced to the study and asked their permission to be contacted by the researchers). It became apparent that most of the new referrals had not been asked to participate in the study. The main member of staff involved in recruitment appeared to have developed a 'gate-keeping' role, whereby only selected people were introduced to the study. It seemed that this was motivated by several factors, which again appeared to somewhat reflect systemic beliefs about victims of sexual violence.

A key concern in the health services was that it was not appropriate to refer people to the study if they were judged to be too affected by the assault or distressed, as the research assessment might have a detrimental impact on their wellbeing. This seemed to further highlight the dilemma faced by health and criminal justice services, addressing attrition whilst also balancing the impact of beliefs about sexual assault. It appeared that the value placed on protecting clients in the service might underlie the recruitment difficulties. Whilst this was commendable and understandable, particularly given the context of increased concern about quality of care, it seemed that their clients could also be disempowered by exaggerated attempts to protect and support them. Indeed, all of the SARC participants anecdotally reported that they found taking part in the research a positive experience, with a few people particularly emphasising how helpful it was to have an opportunity to share and reflect on what had happened to them. However, when this was fed back to the member of the team who had adopted the 'gate-keeping' role it did not have any impact on the rates of referral to the study, nor did any other attempts to address their concerns (e.g. simplifying the introduction process, evaluating the risks of participation and developing strategies to

manage risk). To overcome the slow rate of recruitment, it was therefore decided to extent the study to another SARC site.

The CPS and Victim Credibility

However, when approval for recruiting from the additional SARC was sought from their team, yet another obstacle to recruitment arose, resulting in the significant methodology changes. Concerns about the study were raised by a manager at the new site, who then informed the police and the CPS of their reservations. The CPS responded by requesting that recruitment was suspended, and the study was halted with the support of the police. This was somewhat perplexing given that the research had been given ethical and organisational approval from all the relevant authorities, and recruitment was already underway at the other SARC.

A meeting involving the study researchers and representatives from the police and the CPS was called to discuss the future of the research. Consistent with the concerns previously raised by the police, the CPS were worried that participant disclosure could result in victim credibility being questioned. More specifically, they thought that items from the assessment that referred to common post-traumatic reactions could potentially jeopardise the likelihood of conviction during the judicial process. A perspective which again appeared to support the need to understand and address the role of trauma-related processes in attrition. As in the previous meeting with the Head of the SRU, we highlighted that the assessment would not involve discussion of the assault itself only victims' subjective experience of police interviews and trauma-related difficulties. It was also emphasised that participants would not be coached by

researchers and that questionnaires could only be interpreted by psychologists. The discussion appeared to somewhat address their concerns, and the police seemed supportive of the study. However, the CPS concluded they would have to refer the matter to their policy unit for approval before recruitment could start again.

Communicating with those involved about and arranging meetings to resolve these matters had led to significant delays in the study. It was therefore decided to modify the study design to an anonymous, internet survey (see below for further discussion). Whilst it was hoped it would also be possible to restart the face to face interviews at a later date, unfortunately the CPS response was to request that the research should end. They stated this was because participants' report of their state of mind and memory recall could undermine future prosecutions. Specifically, items assessing memory fragmentation, intrusive imagery and peri-traumatic dissociative experience were all deemed to jeopardise the judicial process, in support of the study hypotheses.

Response to Context-Related Challenges

The research process highlighted the significant organisational challenges to researching attrition in sexual assault. These obstacles were frustrating at times, as we viewed the study as consistent with and in support of recent criminal justice initiatives to improve conviction rates. Whilst the Internet study provided a short-term resolution to the criminal justice system's concerns, it seems that future progress may rely on addressing the systemic constraints on researching attrition in sexual assault.

Response to Concerns about Victim Credibility: The Internet Study

The Internet survey presented a feasible solution to address the concerns about the study. It was possible to complete the research governance procedures and develop the online survey in a relatively short period, which was necessary given the time constraints on the research. Participants and their computers were not identifiable because the online software did not allow for the collection of any personal or electronic data (Bristol Online Surveys, 2003). In this respect, it was therefore an ideal means of addressing the concerns about participant anonymity and ensuring that the research did not impact upon the judicial process.

Internet mediated research is an increasingly popular means of data collection. In addition to guaranteeing anonymity, online studies tend to be time efficient as participants complete the research in their own time. Further, internet surveys can be easily designed using appropriate software and also address ethical concerns such as informed consent, withdrawal, confidentiality and debriefing (Hewson, Yule, Laurent & Vogel, 2003). Despite the benefits, concerns have been raised about sampling bias, the reliability and validity of online research (Hewson, 2003). Whilst the online survey resolved the recruitment difficulties, the obstacles to researching sexual assault seemed to persist.

The online and interview sub-samples had a similar demographic profile, suggesting that the methodology did not significantly impact on sampling. This was unsurprising as the majority of the Internet sample were recruited through the field supervisors at the SARCs, who agreed to inform their therapy clients about the study. Despite

advertising the online survey on public websites sites and posting on relevant message boards, the recruitment rate remained low. Several sexual assault support services also declined displaying the web link to the study on their websites, with their responses reflecting concern that the research might be harmful to participants.

Whilst recruiting clinical samples often presents challenges, the difficulty accessing people who had been sexually assaulted seemed particularly marked. It may those most at risk of sexual assault were less likely to respond to the online survey, as vulnerable groups may have more difficulty accessing the Internet given their disempowered position within society (Harris & Grace, 1999; Kelly *et al.*, 2005; Stanko, Osborn & Paddick, 2005). As most participants were recruited through the field supervisors, anonymity did not appear to increase recruitment. Given that these participants were engaged in SARC services, this perhaps suggests that victims are more likely to be involved in discourse about attrition when in a supportive context that challenges unhelpful beliefs about sexual assault.

There did not appear to be any significant clinical differences between the interview and internet participants. This suggests that the method of data collection did not impact on the validity of the data gathered, and is consistent with evidence that comparable results are obtained from IMR and more traditional methods (Smith & Leigh, 1997). However, participants often required clarification of questions during interviews, which raised the issue of how people managed completing the survey online. The research concepts were somewhat complex and sometimes operationalised through a single question, due to a lack of psychometrically robust measures. It was

these variables (i.e. memory fragmentation, account coherence and generative retrieval) that tended to require further explanation during interview. It may also be that interviewing participants provides a more detailed and accurate representation experience, although it has also been suggested people may be more open and less influenced by social desirability effects in online research (Joinson, 1999, 2001). In this study however, it did not appear that the Internet study significantly improved recruitment or enhanced the quality of the data obtained.

Response to the Research Challenges: Understanding Context

The dominant contextual themes appeared to be increased concern about attrition and the impact of beliefs about sexual assault and how people react to trauma. The influence of these on the research context can be understood in terms of the socio-political context of sexual assault, in line with Pearce and Cronen's (1980) Co-ordinated Management of Meaning model. Discourse about sexual assault at higher levels of the research context (e.g. the media, the Government and general public) shaped how those involved with the research made sense of the study. Whilst the different positions of the criminal justice, health and research agencies could be understood within their respective contexts, the relative power of the CPS in the system meant that their perspective was privileged and resulted in the research being ended (Boscolo, Cecchin, Hoffman & Penn, 1987; Dallos & Draper, 2000).

It appeared this privileging of the CPS position resulted in a negative feedback cycle which could be contributing to maintaining the low conviction rate. Whilst the CPS responded to concern about attrition by protecting the judicial process, this seemed to

actually maintain the problem by preventing progress. Indeed, it has previously been observed that the criminal justice system can act as "gatekeepers to progress in addressing attrition" (Gregory & Lees, 1996). Similarly, the value which the health service placed on protecting victims seemed as though it could actually perpetuate their disempowerment relative to the CPS and the police. Perpetuating these unhelpful beliefs about sexual assault may be an understandable attempt to maintain stability within the criminal justice and health systems.

The defensive practice of the CPS meant that was it was difficult to develop strategies to address the barriers to research. Nonetheless, throughout the course of the study we also encountered substantial support for the research within the health and criminal justice services. Despite the police's initial concerns, they demonstrated a curiosity to understand the role of post-traumatic reactions in attrition. Further, all involved parties also acknowledged the dilemma that placing value on protecting the judicial process might also ensure that it continues to be biased against victims. This suggests that there was at least some flexibility within the criminal justice and health systems.

Clinicians and academics may find adopting a position of irreverence when working with the criminal justice system helpful in attempting to modify the cycle which maintains but also prevents progress in the judicial process (Cecchin, Lane & Ray, 1992). This could involve developing a more thorough understanding of the current emphasis on protecting the judicial process whilst also facilitating consideration of other approaches to address attrition. Involving service users in the research governance process may provide a useful perspective on the concerns raised and also challenge the expert

position of the statutory authorities. Developing relationships and collaboration between agencies also seems central to overcoming the obstacles to addressing attrition. This may promote discourse about improving conviction rates, and facilitate the development of research governance procedures within the criminal justice system.

Conclusion

In conclusion, the research process demonstrated the impact of the social-political context of sexual assault, through the way in which concern about attrition and beliefs about sexual violence seemed to result in obstacles to progress. Whilst the study was informed by a cognitive-behavioural approach, the challenges highlighted the importance of considering context when designing research. Victims' experience of the criminal justice system may play a role in the development and maintenance of post-traumatic psychological difficulties. Policy and practice within health services should therefore consider the impact of social-political factors when addressing trauma-related mental health problems, and promote efforts to address attrition of sexual assault cases.

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Appendices

Appendix A: Contributions to Joint Project

Contributions to Joint Project

The initial development of the project was done by both Trainee Clinical Psychologists (Amy Hardy and Lucy Maddox) and their supervisors (Ms Kerry Young, Dr Emily Holmes, Dr Deborah Lee and Dr Chris Barker) to ascertain the feasibility of the studies, potential recruitment sources and research design. The Trainee Clinical Psychologists then independently developed the proposals for their studies, in consultation with their supervisors. The research governance procedures and data collection for the project were shared equally between the Trainees. Data analysis, interpretation and writing up were done separately for each of the studies.

Appendix B: Ethics Documents

London - Surrey Borders Research Ethics Committee

23 March 2007

Ms K Young
Senior Clinical Tutor
Sub-Department of Clinical Health Psychology
University College London

Dear Ms Young

Study title: **The Role of Psychological Factors in the Experience of Reporting Rape in Police Interviews**
REC reference: **07/Q0806/18**

Thank you for your letter of 21 March 2007, responding to the Committee's suggestions following the meeting on 07 March.

Received documents

The list of documents received following the favourable opinion given on 07 March 2007.

- Covering letter, dated 21st March 2007
- Participant Information Sheet, version 1 dated 02nd February 2007
- Analysis Plan for Research Assessment Questionnaires, version 1
- Research Assessment, version 2

The Committee is happy to maintain the favourable opinion given.

Conditions of approval

The favourable opinion was given provided that you comply with the conditions set out in the document "Standard conditions of approval by Research Ethics Committees" enclosed with the initial favourable opinion letter. If you require a further copy of these conditions please refer to www.corec.org.uk or contact the REC office.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

REC reference number: 07/Q0806/18	**Please quote this number on all correspondence**

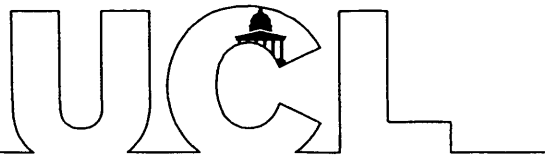
With the Committee's best wishes for the success of this project

Yours sincerely

Committee Co-ordinator

E-mail:

UCL GRADUATE SCHOOL
UCL RESEARCH ETHICS COMMITTEE



Ms Kerry Young
Sub-department of Clinical Health
Psychology
UCL

07 November 2008

Dear Ms Young

Notification of Ethical Approval
Project ID/Title: 1277/001: Police Interview Study

I am pleased to confirm that the UCL Research Ethics Committee has approved your study for the duration of the project (i.e. until June 2008).

Approval is subject to the following conditions:

1. You must seek Chair's approval for proposed amendments to the research for which this approval has been given. Ethical approval is specific to this project and must not be treated as applicable to research of a similar nature. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing the 'Amendment Approval Request Form'.

The form identified above can be accessed by logging on to the ethics website homepage: http://www.grad.ucl.ac.uk/ethics/ and clicking on the button marked 'Responsibilities Following Approval'.

2. It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. Both non-serious and serious adverse events must be reported.

Reporting Non-Serious Adverse Events.
For non-serious adverse events you will need to inform , Ethics Committee Administrator ( ), within ten days of an adverse incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Chair or Vice-Chair of the Ethics Committee will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

Reporting Serious Adverse Events

The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator immediately the incident occurs. Where the adverse incident is unexpected and

serious, the Chair or Vice-Chair will decide whether the study should be terminated pending the opinion of an independent expert. The adverse event will be considered at the next Committee meeting and a decision will be made on the need to change the information leaflet and/or study protocol.

On completion of the research you must submit a brief report (a maximum of two sides of A4) of your findings/concluding comments to the Committee, which includes in particular issues relating to the ethical implications of the research.

Yours sincerely

Chair of the UCL Research Ethics Committee

Cc: Deborah Lee, Lucy Maddox and Amy Hardy, Sub-department of Clinical Health Psychology, UCL

Appendix C: Recruitment Documents for Interview Study

Are you interested in telling us about your experience of being interviewed by the police?

- **The (insert name of SARC) is conducting research to understand psychological reactions following rape.**
- **It is hoped that this research will help to improve the criminal justice process for people who have been raped.**
- **If you think that you might be interested in taking part in this project, please tell one of the (insert name of SARC) staff.**
- **You will be reimbursed for your time and expenses.**
- **Amy Hardy or Lucy Maddox (Trainee Clinical Psychologists) will then contact you by telephone to discuss the project further.**
- **A summary of what the project is about and what it involves can be found by this poster.**

Experience of Police Interview Study

What exactly is the study about?
We are interested in finding out about people's experiences of being interviewed by the police after having reported a sexual assault, and so would like to invite you to participate in this study. We hope that the findings of the study may help the police and the Crown Prosecution Service (CPS) improve their service, which could help other people who are raped in the future. There is another information sheet that describes the study in more detail.

Why are you talking to me about the study?
We are inviting all people who attend the (insert name of SARC) to participate in the study.

If I decide to take part in the study, what exactly would I have to do?
The study would involve you taking part in an interview lasting approximately one hour at the (insert name of SARC). It is also possible to do the interview by post or on the Internet. During the interview, you would be asked to complete some questionnaires and answer some questions about your experience of being interviewed by the police, and about your thoughts and feelings generally. You would be reimbursed £8.00, to cover your travel expenses and time.

Do I have to take part in the study?
No, it is your decision whether you participate, and you are still free to withdraw at any time and without giving a reason. Your decision will not affect your care at the (insert name of SARC).

What happens now?
If you are interested in discussing the study further we would like to contact you by telephone, so that we can answer any questions you have. Please tell one of the (insert name of SARC) staff if you would like us to contact you by telephone. If you decide that you would like to participate in the study, we will then arrange a time for the interview.

Thank you for reading this information sheet.

Lucy Maddox
Trainee Clinical Psychologist
University College London

Amy Hardy
Trainee Clinical Psychologist
University College London

Participant Information Sheet

Study title: Psychological factors in experience of reporting sexual assault in police interviews

We are currently asking people if they would like to take part in a research study. To help you decide whether you would like to take part, this sheet will give you some more information about the study: why the research is being done and what taking part would involve.

Please take time to read the following information carefully.

- Part 1 tells you the purpose of this study and what will happen to you if you take part.

- Part 2 gives you more detailed information about the conduct of the study.

Please feel free to ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you would like to take part. Talk to others about the study if you wish.

Why are we doing this study?
This study aims to find out more about the factors affecting people's experiences of reporting sexual assault to the police, and psychological factors affecting people's decisions about whether or not to take a sexual assault case to court. We are therefore approaching people who have reported a sexual assault to the police, and inviting them to come for a one-off interview.

We would like to know about:

- your experience of the police interview,

- if anything could have been done differently to make things easier for you.

We would also like to know:

- whether or not you have decided to take your case to court,

- what has influenced you in this decision.

We would also like to ask you to fill in some questionnaires about your thoughts and feelings since the sexual assault.

This study is being carried out by two researchers, Lucy Maddox and Amy Hardy. We are currently undertaking a three year doctorate in clinical psychology at University College London. The doctorate in clinical psychology is the professional training required by the NHS to practise as a clinical psychologist. This research forms part of the doctorate.

Why have I been chosen?
We are asking all people attending the (insert name of SARC) whether they would like to take part in this study.

Do I have to take part?
No. It is totally up to you whether or not you would like to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive or your legal rights.

What will happen if I don't want to take part anymore?
You can withdraw from the study at any time without giving a reason. Any information held about you would then be destroyed.

What will happen to me if I take part? What will I have to do?
If you decide to take part we will arrange a one-off meeting with you at the (insert name of SARC) which will last for about an hour. The sessions will be arranged so that they cause the least disruption and inconvenience to you. There will be a private and confidential interview and you will be asked to complete some questionnaires. You will speak to a female trainee clinical psychologist, either Lucy Maddox or Amy Hardy. They will also be available should you need assistance with the questionnaires. If you consent, the interview will be voice-recorded, as this will help us to remember exactly what you say. You can stop the interview or the recording at any time. The recordings will be anonymised and they will not be passed on or shared with anyone outside of the research team.

Expenses and payments
Participants will be reimbursed for their travel expenses and time with a flat rate of £8, in line with University College London recommendations for reimbursement of study participants.

Are there any benefits from taking part?
We are hoping that with this research we can find out more about how it feels for women to report a sexual assault, and to consider taking a sexual assault case to court. This may help the police and the Crown Prosecution Service (CPS) to improve their service. This could then help other women who are sexual assaulted in the future. It may be that you would like to contribute to this by taking part in the study.

Are there any disadvantages/risks from taking part?
You will not be expected to talk about your experience of the sexual assault, only the police interview. However, it is possible that during the interview you may find the topics discussed sensitive or upsetting. If you do feel like this you must raise it with the interviewer immediately. You could ask the interviewer to move on to another subject or terminate the interview altogether. It is important for you to understand that you are not required to discuss anything that you do not want to and you should discuss only the things which you feel are relevant. However, if the interview causes you distress in any way, you can talk about this with the research interviewer, Lucy or Amy. If required, further support will be available from the Clinical Psychologist at the (insert name of SARC), who has extensive experience working with people who have been sexual assaulted.

What if there is a problem? Who do I speak to if problems arise?
If you have any complaint about the way you have been dealt with during the study or any possible harm you might suffer, this will be addressed. Detailed information on this is given in Part 2 of this information sheet.

Will my taking part in this study be kept confidential?
Yes. All the information about your participation in this study will be kept confidential, although there are two exceptions when we will need to share information you have provided with others. This is explained in more detail in Part 2 of this information sheet.

Contact for further information
Please feel welcome to ask questions or to discuss any worries that you have about this study with X, Counsellor and Health Advocate at the (insert name of SARC), or Y, Clinical Psychologist at the (insert name of SARC). You can also contact us via email at and we will be happy to answer your questions. Alternatively, if you would like to leave your telephone number for us at the (insert name of SARC), we are happy to call you to talk to you about the study in more detail.

Many thanks for your time in reading this information.

Lucy Maddox and Amy Hardy
Trainee Clinical Psychologists
University College London

The above completes Part 1 of the Information Sheet. If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

Part Two

What if there is a problem?

How could I complain?
If you have a concern about any aspect of this study, you should ask to speak with the researchers who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from the (insert name of SARC).

What are the arrangements for compensation in the event of harm?
Every care will be taken to ensure your safety during the course of the study. UCL has indemnity (insurance) arrangements in place for non-negligent harm, in the event that something does go wrong and you are harmed as a result of taking part in the research study.

If you are harmed due to someone's negligence, then you may have grounds for a legal action but you may have to pay for it. Regardless of this, if you wish to complain, or have concerns about any aspect of the way you have been approached or treated during the course of this study, the normal National Health Service complaints mechanisms should be available to you.

Will my taking part in this study be kept confidential?
Yes. All information which is collected about you during the course of the research will be kept confidential. Any information about you will have your name and address removed so that you cannot be recognised from it. Only the researchers and a representative of the Research Ethics Committee will have access to the information collected during this study. However, the Research Governance Sponsor, University College London may monitor or audit this study to ensure that it is being conducted appropriately but your identity will not be revealed. All information, including recordings, will be kept under locked conditions. The only possible exceptions, where confidentiality could be breached, would be:

i) if the CPS required the information for evidence. However, since the information we are gathering does not relate to the sexual assault itself, this is highly unlikely.
ii) If there is a concern that of a significant risk of harm to yourself or others.

Anonymised data will be kept for a maximum of ten years, and then destroyed.

The handling, processing, storage and destruction of personal information will be conducted in accordance with the Data Protection Act 1998.

What will happen to the results of this study?
The results will contribute to the doctoral theses of the researchers, Lucy and Amy. We also hope to publish the results of this study in a scientific journal and at professional conferences. You will not be identifiable from the doctoral dissertation or in any publication. If you wish to be informed about the results of this study once it is written up we can send you a copy of the publication, but this is completely up to you.

Who is organising and funding the research?
This study is organised by the researchers, Lucy Maddox and Amy Hardy, and their supervisors (Dr C. Barker and Ms K. Young) at University College London, as part of their doctorate in clinical psychology. A minimal funding budget is provided by the University. The student's doctorates are funded by the NHS. No other organisation is involved in funding the research.

Who has reviewed the study?
This study was given a favourable ethical opinion from for conduct in the NHS by London-Surrey Borders Local Research Ethics Committee.

Thank you for considering taking part and for taking the time to read this sheet. Should you decide to take part you will be given a copy of this form and the consent form to keep.

Contact Details:
Please feel free to contact Lucy or Amy to find out more about the study or if you have any questions. We are contactable by email at , alternatively we are happy to contact you by telephone if you leave your number for us at the (insert name of SARC).

Centre Number:
Study Number:
Participant Identification Number for this study:
Name of Researchers: Ms Amy Hardy and Ms Lucy Maddox

Consent Form
Title of project: Psychological factors in experience of reporting sexual assault in police interviews

Please initial box

1. I confirm that I have read and understand the information sheet dated ..... (version .....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. *I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.* ☐
3. I understand that all information I give will be kept confidential, unless the CPS require any information given during the interview, or there is a significant risk of harm to myself or others. ☐
4. I understand that the researchers will obtain basic demographic information from my clinical records. ☐
5. I agree to my interview being voice-recorded ☐
6. I understand that some of what I say may be quoted verbatim, but that I will in no way be identifiable from any such quotations used. ☐
7. I agree to one of the researchers contacting the police to find out about the progress of my case. ☐
8. I understand that some study documents may be looked at by responsible individuals from the research sponsor (UCL) for the purpose of monitoring/auditing. I give permission for these individuals to have access to relevant documentation. ☐
9. I agree to take part in the above study. ☐

Name of participant	**Date**	**Signature**
Researcher	**Date**	**Signature**

Appendix D: Recruitment Documents for Internet Survey

Are you interested in telling us about your experience of being interviewed by the police following sexual assault?

- **We are psychologists from University College London carrying out an internet-based project to understand people's experience of being interviewed by the police following sexual assault.**

- **It is hoped that this research will help to improve the criminal justice process for people who have been sexually assaulted.**

- **If you think that you might be interested in taking part in this project, please look at our website:**

www.survey.bris.ac.uk/psych-ox/policeinterview

- **You can also email us at if you would like to discuss the project further.**

UCL Research Ethics Committee Project Project ID: 1277/001

Hello,

We are currently recruiting students to fill in an online survey for our Doctorate in Clinical Psychology theses. We would be very grateful if you would forward the following message to your mailing lists. Please do not hesitate to contact us if you require any further information.

Thank you in advance for your help.

Yours sincerely,

Lucy Maddox
Trainee Clinical Psychologist
Supervised by Dr Debee Lee
Lecturer, UCL

Amy Hardy
Trainee Clinical Psychologist
Supervised by Ms Kerry Young
Senior Clinical Tutor, UCL

We are Trainee Clinical Psychologists who are recruiting people to complete an online survey. We are looking for people who have been sexually assaulted in the past year and who reported it to the police.

We want to find out about your experience of being interviewed by the police when you gave your statement, and about your thoughts and feelings generally. It is hoped that this project will help to improve the criminal justice system for people who are sexually assaulted in the future.

The survey takes about 30-45 minutes to do, although you do not have to complete it all at the same time.

The survey responses will be completely confidential and you can change your mind about taking part at any point.

Thank you for taking the time to read this email. We hope that you will take part by following the link below:

www.survey.bris.ac.uk/psych-ox/policeinterview

If you have any questions or concerns about the project, please contact us on

With best wishes,

Lucy Maddox
Trainee Clinical Psychologist
University College London

Amy Hardy
Trainee Clinical Psychologist
University College London

Online Surveys
Develop, launch and analyse Web-based surveys

What do I need to know before I decide whether to take part in the project?

This project is being conducted by the Sub-department of Clinical Health Psychology, University College London. The information collected in this survey will be used by two Trainee Clinical Psychologists for their Doctorate in Clinical Psychology research projects.

You should only participate if you want to, choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to read the following information carefully and discuss it with others if you wish. If you have any questions about the project please contact the researchers on .

We really appreciate you reading this page thoroughly.

This project has received ethical approval from University College London Research Ethics Committee (Ethics Number: 1277/001). All data will be collected and stored in accordance with the Data Protection Act 1998. (Data Protection Number: Z6364106/2007/2/98).

We are interested in finding out about people's experiences of being interviewed by the police after having reported a sexual assault. We hope that the findings of the study may help the police and the Crown Prosecution Service (CPS) improve their service, which could help other people who are sexual assaulted in the future.

We really appreciate you taking the time to look at this website.

We would like people who have been sexually assaulted **in the past year** and who **reported it to the police** to complete the survey.

We are interested in finding out about your experiences when you **gave your statement to the police**. Following sexual assault, people may have several interviews with the police. However, we are specifically interested in the interview in which you gave your statement about what happened. This would have been recorded by the police, either in video, audio or written form.

The survey involves you answering some on-line questionnaires. These will be about your experience of the police interview, and your thoughts and feelings generally. We think it is really important to understand your experiences.

The survey should take around **30 to 45 minutes** to complete. You do not have to complete it all in one go, instead you can save your answers and return to complete it at another time.

To answer a question, please click your left mouse button to select the answer(s) that apply to you.

Please answer all questions as honestly as you can. There are no right or wrong answers. It is best to not spend too long thinking about your answers, usually the response that comes into your head first is the most accurate.

To move onto the next page click on the "continue" button at the bottom of each page.

Once you have clicked on the "continue" button at the bottom of a page you cannot return and change your answers on that page. So, please make sure you have finished answering the questions as you want to before you move onto the next page.

Please close your web browser if you change your mind about taking part in the project. You can do this **at any stage**. The information you have provided will not be used in the project.

No. All information collected in this survey will be held **anonymously and securely**. No personal information is asked for or stored. Your identity and your answers are **completely anonymous** and any answers you give will remain confidential. Cookies (personal data stored by your Web browser) are not used in this survey.

The information will be destroyed no later than 10 years after the end of the project.

The project may be described in a research publication(s) and at conferences. As your answers are anonymous, it will not be possible to identify you from the information you provide.

If you wish to obtain a copy of published results, we would be happy to send them to you when they become available. Please contact the researchers on
to let them know you would like a copy.

The survey asks about your experience of the police interview when you reported the sexual assault, and your thoughts and feelings generally. Occasionally these questions can be a bit upsetting so it is important to remember that you do not have to answer any questions you do not want to. If you are uncomfortable, you can discontinue the survey at any time.

If you need further support, you may want to contact one of the organisations below. You can also contact the researchers on policeinterviewstudy@gmail.com. We will reply to any messages within 72 hours. In addition, you may want to contact your GP.

Rape and Sexual Abuse Support Centre (RASASC)

Weekdays 12 noon -- 2.30pm 7pm -- 9.30pm
Weekends & Bank Holidays 2.30pm -- 5pm

Refuge/Women's Aid

Website: www.refuge.org.uk

Victim Support

Website: www.victimsupport.org.uk

Samaritans

Website: www.samaritans.org

It is up to you to decide whether or not to take part. If you choose not to participate it will involve no penalty or loss of benefits to which you. Please click the boxes below if you agree to each point and want to consent to take part in the project. If you decide to take part you are still free to withdraw at any time and without giving a reason. Please close the web browser or window if you do not want to take part in the project.

If you decide to take part you can keep a record of this information sheet and consent form by selecting 'file' and 'print' to print this web page. Alternatively, please contact the researchers at to obtain a copy.

1. Please click on the boxes to indicate whether you can confirm that...

	Yes
a. I agree that I have read the information on this web page for the "Experience of Police Interview" project.	☐
b. I agree that I have had the opportunity to ask questions and discuss the project by emailing the researchers.	☐
c. I agree that I have received satisfactory answers to all my questions or have been advised of an individual to contact for answers to pertinent questions about the project and my rights as a participant, and whom to contact in the event of a research-related injury.	☐
d. I understand that the information I have submitted may be published in a scientific journal and at academic conferences and that I can be sent a copy of any articles about the project if I contact the researchers.	☐
e. I understand that confidentiality and anonymity will be maintained and it will	☐

not be possible to identify me from any publications.	
f. I understand that I am free to withdraw from the project without penalty if I so wish and I consent to the processing of my personal information for the purposes of this project only and that it will not be used for any other purpose. I understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.	☐

Click on the "continue" button to start completing the survey.

Continue > | Check Answers & Continue >

Appendix E: Example Page from Internet Survey

Page 3 of 13

In this section, there is a list of experiences that people sometimes have after experiencing a traumatic event. We are interested in whether you had any of these experiences **during the police interview** when you gave your statement. Please read each statement carefully.

21.

	Please click to select an answer for each question below.			
	Not at all	**Once in a while**	**Half the time**	**Almost always**
a. Having upsetting thoughts or images about the sexual assault that came into your head when you did not want them to.	○	○	○	○
b. Feeling as if you were having a bad dream or nightmare about the sexual assault.	○	○	○	○
c. Reliving the sexual assault, acting or feeling as if it were happening again.	○	○	○	○
d. Feeling emotionally upset when reminded of the sexual assault (for example, feeling scared, angry, sad, guilty, etc).	○	○	○	○
e. Experiencing physical reactions when you were reminded of the sexual assault (for example, breaking out in a sweat, heart beating fast).	○	○	○	○
f. Trying not to think about the sexual assault.	○	○	○	○
g. Trying not to talk about the sexual assault.	○	○	○	○

h. Trying not to have any feeling about the sexual assault.	○	○	○	○
i. Not being able to remember an important part of the sexual assault.	○	○	○	○
j. Feeling distant and cut off from people.	○	○	○	○
k. Feeling emotionally numb (e.g. being unable to cry).	○	○	○	○

Continue > | Check Answers & Continue >

Appendix F: Peri-traumatic Dissociative Experiences Questionnaire

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

Please rate each item on the following scale:

	Not at all true	*Slightly true*	*Somewhat true*	*Very true*	*Extremely true*
1. I had moments of losing track of what was doing 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
2. I found that I was on "automatic pilot" – I ended up doing things that I later realized I hadn't actively decided to do.	1	2	3	4	5
3. My sense of time changed – things seemed to be happening in slow motion.	1	2	3	4	5
4. What was happening seemed unreal to me, like I was in a dream or watching a movie or play.	1	2	3	4	5
5. I felt as though I were a spectator watching what was happening to me, as if I were floating above the scene or observing it as an outsider.	1	2	3	4	5
6. There were moments when my sense of my own body seemed distorted or changed. I felt disconnected from my own body, or that it was unusually large or small.	1	2	3	4	5
7. I felt as though things that were actually happening to others were happening to me – like I was being trapped when I really wasn't.	1	2	3	4	5
8. I was surprised to find out afterward that a lot of things had happened at the time that I was not aware of, especially things I ordinarily would have noticed.	1	2	3	4	5

9. I felt confused; that is, there were moments when I had difficulty making sense of what was happening.	1	2	3	4	5
10. I felt disorientated; that is, there were moments when I felt uncertain about where I was or what time it was.	1	2	3	4	5

Appendix G: Post-Traumatic Diagnostic Scale

We would be grateful if you would answer all of these questions about the sexual assault you experienced.

1. During the sexual assault...

a. Were you physically injured?	No	Yes
b. Was someone else physically injured?	No	Yes
c. Did you think that your life was in danger?	No	Yes
d. Did you think that someone else's life was in danger?	No	Yes
e. Did you feel helpless?	No	Yes
f. Did you feel terrified?	No	Yes

2. 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.

Please rate each item using the following scale:

	Not at all or only one time	*Once a week or less/once in a while*	*2 to 4 times a week/half the time*	*5 or more times a week/almost always*
a. Having upsetting thoughts or images about the event that came into your head when you did not want them to.	0	1	2	3
b. Having bad dreams or nightmares about the traumatic event.	0	1	2	3
c. Reliving the traumatic event, acting or feeling as if it were happening again.	0	1	2	3
d. Feeling emotionally upset when reminded of the traumatic event (for example, feeling scared, angry, sad, guilty, etc).	0	1	2	3

	Not at all or only one time	*Once a week or less/once in a while*	*2 to 4 times a week/half the time*	*5 or more times a week/almost always*
e. Experiencing physical reactions when you were reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast).	0	1	2	3
f. Trying not to think about, talk about or have feelings about the traumatic event.	0	1	2	3
g. Trying to avoid activities, people or places that remind you of the traumatic event.	0	1	2	3
h. Not being able to remember an important part of the traumatic event.	0	1	2	3
i. Having much less interest or participating much less often in important activities.	0	1	2	3
j. Feeling distant or cut off from people around you.	0	1	2	3
k. Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings).	0	1	2	3
l. 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).	0	1	2	3
m. Having trouble falling or staying asleep.	0	1	2	3
n. Feeling irritable or having fits of anger.	0	1	2	3
o. 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
p. 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

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

3. Please indicate below if the problems you rated above have interfered with any of the following areas of your life during the past month:

a. Work	No	Yes
b. Household chores and duties	No	Yes
c. Relationships with friends	No	Yes
d. Fun and leisure activities	No	Yes
e. Schoolwork	No	Yes
f. Relationships with your family	No	Yes
g. Sex life	No	Yes
h. General satisfaction with life	No	Yes
i. Overall level of functioning in all areas of your life	No	Yes

Appendix H: Interview Intrusions and Avoidance

In this section there is a list of experiences that people sometimes have after experiencing a traumatic event. We are interested in whether you had any of these experiences **during the police interview**. Read each statement carefully and circle the number that best describes how often the problem bothered you during the police interview.

Please rate each item on the following scale:

	Not at all	*Once in a while*	*Half the time*	*Almost always*
1. Having upsetting thoughts or images about the sexual assault that came into your head when you did not want them to.	0	1	2	3
2. Feeling as if you were having a bad dream or nightmare about the sexual assault.	0	1	2	3
3. Reliving the sexual assault, acting or feeling as if it were happening again.	0	1	2	3
4. Feeling emotionally upset when reminded of the sexual assault (for example, feeling scared, angry, sad, guilty, etc).	0	1	2	3
5. Experiencing physical reactions when you were reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast).	0	1	2	3
6. Trying not to think about the sexual assault.	0	1	2	3
7. Trying not to talk about the sexual assault.	0	1	2	3
8. Trying not to have any feelings about the sexual assault.	0	1	2	3
9. Not being able to remember an important part of the sexual assault.	0	1	2	3
10. Feeling distant and cut off from people.	0	1	2	3
11. Feeling emotionally numb (e.g. being unable to cry).	0	1	2	3

Appendix I: Intrusions Protocol

In this section, there are questions about your experience of any intrusions of the sexual assault occurring **during the police interview**. By intrusions, we mean any Intrusive memories, images and thoughts that popped into your mind spontaneously, not at times when you were deliberately trying to think about the sexual assault. Intrusions interrupt day-to-day activity and may be difficult to control. They can either take the form of words or phrases, or they can be like mental pictures. Although mental images often take the form of pictures they can actually include any of the five senses, so you can also imagine sounds, smells, sensations and tastes too.

1. Did you notice any intrusive memories or thoughts of the sexual assault coming to mind during the police interview? Please circle an answer below to indicate how often you experienced intrusions.

0 Not at all
1 Slightly
2 Somewhat
3 Moderately
4 Very much
5 Extremely

1b. If you did notice intrusions of the sexual assault during the police interview, could you please give an example of an intrusion you experienced?

_____
_____
_____

2. What were the strongest emotions associated with these memories or thoughts? How did these memories or thoughts make you feel? Please rate how strongly you felt each emotion (0 = not at all, 100 = very strongly):

Sad	_____ (0 – 100)	Helpless	_____ (0 – 100)
Angry	_____ (0 – 100)	Horrified	_____ (0 – 100)
Guilty	_____ (0 – 100)	Disgusted	_____ (0 – 100)
Afraid	_____ (0 – 100)	Ashamed	_____ (0 – 100)
Surprised	_____ (0 – 100)	Unreal	_____ (0 – 100)
Other:	_____ (0 – 100)		

3. When you experienced the memories or thoughts, did it feel like you were reliving the sexual assault or was it like looking back at the sexual assault in the past? Please mark the line to indicate the extent to which it was like looking back at the past or like reliving the experience:

Totally looking back the at the past _____ _____ Totally reliving the experience

4. When the memories or thoughts came to mind were the details unclear or were they very vivid, i.e. were the images, sounds, smells or sensations very clear and familiar?

1= unclear 2= some detail 3= vivid

Appendix J: Semi-Structured Interview Schedule

I would like to ask you some questions about your experience of the police interview and about your thoughts about taking the case further. There will be questions about your experience of disclosure, the interviewer reaction, taking the case to court and whether you have any suggestions for improvements.

1. *Experience of disclosure*

a. Can you start by telling me generally about your experience of the police interview? What happened and what was it like for you?

b. To what extent did you feel that you could talk openly about what had happened to you? (Prompts: did anything help? Did anything get in the way?)

c .How did the interview process make you feel? (Prompt for opposite feelings to described, and were there any positives/negatives)

d. When you were talking, did you feel ashamed about any aspect of the sexual assault or your reactions to it?

If yes:
Can you describe how you felt?
Do you currently feel like that often?
[To facilitate scoring on 4-point scale (4=marked, 3=moderate, 2=some, 1=little or none)].

2. *Reaction of interviewer*

a. How did the interviewer react? How did you feel? Did you feel believed?

3.*Taking the case to court*

a. What are your thoughts and feelings about taking the case to court?

b. Did you feel that the police had an opinion on whether you should take the case to court?

3. *Changes you would make*

a. Is there anything that would have made the whole thing easier?
(Prompts: easier to talk about what had happened easier process as a whole?)

4. Is there anything else that you would like to add?

Appendix K: Timeline

Date	Action
October 2006	Researchers meet with potential field supervisor at the SARC. Agreement made to recruit the sample from the SARC. Study proposals submitted to the sub-department of Clinical Health Psychology, University College London.
November 2006	Proposals approved by the sub-department of Clinical Health Psychology, University College London.
February 2007	Ethical application submitted to the Central Office for Research Ethics Committee (COREC) and relevant research governance applications made to appropriate authorities. Registration application submitted to and approved by the Strategic Research Unit, Metropolitan Police Service.
March 2007	Ethical approval obtained and research governance requirements fulfilled. Recruitment due to commence. The Strategic Research Unit, Metropolitan Police Service, raise concerns about victim disclosure during the research assessment potentially jeopardising cases. Recruitment is not commenced as planned.
April 2007	Meeting with the researchers and the Head of the Strategic Research Unit, Metropolitan Police Service. The study is approved by the police.
June 2007	Recruitment commences at the SARC.
July 2007	Recruitment review indicates that projected recruitment rates are not being met. Regular recruitment meetings indicate that new referrals to the service are not being invited to participate in the study. Strategies developed to try and address low rate of referrals to the study. Decision made to try and extend the study to another SARC site. Researchers meet with potential field supervisor at the new SARC site. Agreement reached to apply to extend the study to this site.
August 2007	Application made to peer-review committee at the second SARC site. Study proposals presented to the team at the new SARC. Manager from this service raises concerns about the potential for the study to impact on the criminal justice process.
September 2007	Manager at SARC informs the Crown Prosecution Service and the Metropolitan Police Service of their concerns about the

	study. Agreement made to suspend recruitment until all involved can meet to discuss the concerns and future of the study.
November 2007	Researchers meet with representatives from the Metropolitan Police Service and the Crown Prosecution Service. The police indicate they could support the research. However, the CPS refer the matter to their policy department and recommend that recruitment should not restart until they have provided a response.
	Researchers develop alternative design in response to the criminal justice systems concerns. Application to the UCL Ethics Committee to do study as an anonymous Internet survey.
January 2008	Ethical approval obtained for the Internet study. Online survey launched and recruitment commenced.
May 2008	Response from CPS policy unit requesting that the SARC research is ended.