UNIVERSITY OF BIRMINGHAM

THE IMPACT, ROLE AND PSYCHOMETRIC MEASUREMENT OF SELF-BLAME IN THE CONTEXT OF SEXUAL TRAUMA

by

BETHANY CAMPBELL

A thesis submitted to the University of Birmingham

for the degree of

Doctorate in Forensic Psychology Practice (ForenPsyD)

Centre for Applied Psychology

School of Psychology

College of Life and Environmental Science

University of Birmingham

June 2021

Abstract

This thesis explores the impact, role and psychometric measure of self-blame in the context of sexual trauma. This work aimed to consider the impact of self-blame on trauma outcomes and memory in particular. The first chapter introduces the concept of self-blame in relation to sexual trauma and highlights the aims of the thesis. The second chapter consists of a systematic literature review regarding the implications that self-blame has on various trauma outcomes. The findings from this review indicated that self-blame is associated with: an increase in PTSD symptoms; experiences of psychological distress; increased levels of depression; lower self-esteem; increased maladaptive coping and alcohol use; increased negative social reactions; factors relating to disclosure; and decreased perceived control.

The third chapter presents empirical research looking at the relationship between self-blame attributions and memory recall in a hypothetical rape scenario. The study also considered the roles of alcohol consumption and alcohol expectancy in relation to memory recall, and how memory of the event and self-blame attributions affect PTSD symptoms. Alcohol expectancy and higher levels of characterological self-blame (CSB) were associated with lower memory recall completeness. Traumatic impact was found to be positively related to self-blame. No relationship between memory recall and traumatic impact was observed. The research demonstrated that CSB may have an important and predictive role in relation to recall completeness following sexual trauma.

Given that most studies (including the empirical research outlined in Chapter 3) have tended to utilise the Rape Attribution Questionnaire (RAQ; Frazier, 2003) to assess rape attributions following rape, the fourth chapter provides a critique of this psychometric measure. Findings suggest that the RAQ demonstrates good psychometric properties, and appears to have empirical justification as a scale of choice for assessing rape attributions. The

chapter highlights the strengths and limitations of the scale and proposes ideas to strengthen the reliability and validity of the measure.

In the final chapter, the overall findings from Chapters 2, 3 and 4 are discussed, with a consideration of future research direction and the practical implications.

Acknowledgements

I would firstly like to thank my academic supervisor Professor Heather Flowe. With the implications that Covid-19 had on my empirical research, you truly saved me from impending doom in enabling me to conduct secondary data analysis on your valuable dataset. Your belief in my ability and innovative guidance has contributed to my development as both a researcher and psychologist. I could not have completed this without you! Further support came from Professor John Maltby from the University of Leicester. Your support and knowledge in statistics provided me with confidence and reassurance in completing my own data analysis.

Secondly, I would like to thank all the professionals I have encountered on my journey throughout this doctorate. Thank you to my supervisors who have enabled me to develop as a practitioner on my placements and the fantastic teams that I have been welcomed into over the three years of this course. I have gained invaluable knowledge and skills from my peers and colleagues which will be useful throughout my career. Further, I owe huge gratitude to the ForenPsyD team at the University of Birmingham; your support and contact- particularly in the midst of a global pandemic- has been faultless. It has enabled me to achieve great success on this challenging and demanding course and I am forever grateful that you saw my potential.

I want to give special thanks to my cohort: Kara, Kathryn, Katie, Catrin and Brit, as well as those that I have met within my teaching and during my time on all three placements. You have all encouraged stimulating discussions, personal and professional reflection, and have provided me with the awareness of the Forensic Psychologist I aspire to be. I would not have got to where I am (nor would I have remembered all dates, deadlines or what I am doing!) without you all. I look forward to maintaining contact, having more picnics, and tapping into all of your specialist skills indefinitely.

Finally, I would like to thank those close to me who have provided me more personal support than they will ever realise. These include my family, for always reminding me that I am capable. My best friends, Tiff and Meg, for listening to my struggles and facilitating well-needed downtime. Finally, my partner, Declan, for maintaining my hope, confidence, and positivity throughout this doctorate and in life in general. I owe all my successes to you all.

Contents

List of Tables

List of Figures

List of Appendices

CHAPTER 1:

INTRODUCTION TO THE THESIS

Introduction

Sexual Trauma

There have been different terms used in the literature to describe sexual trauma. Broadly, sexual trauma can be considered as one or multiple sexual violations that provoke a seriously negative reaction (Yuan et al., 2006). Yuan, et al. (2006) recognised that this term is utilised by many professionals due to the fact that victims may not always refer to their experiences as *rape*, *assault* or *abuse* because of their relationship with the perpetrator or the limited force used. Furthermore, Yuan et al. (2006) acknowledged that the term sexual trauma may be less stigmatising than other terms and influence healing and recovery by acknowledging the effect that the sexual experience has had on the victim's welfare. Despite this, many studies tend to explore a particular type of sexual trauma (such as *rape*, *assault* or *abuse)* and so whilst sexual trauma may be used in this thesis to broadly capture all forms of sexual violence, specific types of sexual trauma will be acknowledged when reviewing findings from the literature.

As well as the language used to describe sexual trauma, there are also different terms used to describe the person who has been victimised. Whilst commonly described as a 'victim', other increasingly common terms are "survivor" or "victim-survivor". The terms have varying connotations, with 'victim' being associated with helplessness and passivity (Convery, 2006), whilst the term 'survivor' has been associated with having agency and initiative (Barry, 1979). Alternatively, studies have indicated that the label 'survivor' may suggest that the experience was life-threatening (Papendick & Bohner, 2017). This could mean that some individuals may not resonate with the label, such as those who have been raped by a partner or acquaintance (the most frequent type of rape; Tjaden & Thoennes, 2000), as it is stranger rapes that have been associated with higher levels of violence and

threat (Koss et al., 1988). Overall, whilst varying connotations have been observed in relation to the two terms, Papendick and Bohner (2017) did not identify any effects of the labels on people's judgments of the individual raped. Furthermore, Papendick and Bohner (2017) identified that the term 'victim' may be more appropriate when considering an individual's short-term outcomes, whilst 'survivor' may be associated with long-term coping of the experience or recovery. With mixed findings around the labels, the author of the present thesis suggests that the beliefs and experience associated with these two terms is likely to be idiosyncratic. For the purpose of this thesis, the term 'victim' will be used throughout.

Sexual trauma has received a lot of attention in the media due to the devastating impact it can have on its victims, with sexually traumatic experiences being considered as one of the most severe forms of trauma (Kilpatrick & Acierno, 2003). The events relating to Sarah Everard and Sabina Nessa illustrate just how devastating the impact can be, with these cases receiving significant attention and sparking conversations around society's attitudes towards women and sexual trauma. As conversations have evolved around society's attitudes towards women and sexual trauma, there has been a movement in the UK and Ireland to stop victim-blaming. Victim-blaming occurs when the victim of a crime is held partly or completely accountable for the crime taking place. Within sexual trauma against women, this may involve blaming a female's outfit, physical condition, or independence as a reason for an assault taking place. At times, victim-blaming may not be overt and obvious, and can involve subtle word choices or suggestions that a victim had control over the event occurring. The culture of victim-blaming is something that has often been inadvertently promoted by the media in the way stories of sexual trauma are reported For example, referring to the victim as a "party girl" or using their 'suggestive' photos from social media when reporting the crime-whilst describing the perpetrator as a "family man" or using his respected job title, are subtle behaviours that can support the notion of victim-blaming.

In addition to media reporting, police response to sexual trauma has been previously under scrutiny for promoting victim-blaming. In September 2021, the Police Service of Northern Island were found to have provided leaflets to university students that stated: "Alcohol is the number one rape drug. How much have you taken already?". The statement implied that consuming alcohol causes rape, and that women should stop consuming alcohol to maintain their safety. No accountability relating to the perpetrator (e.g., to not take advantage of vulnerable women) was considered. Similarly, Nottinghamshire Police in the UK were previously accused of victim-blaming women who walk alone as a cause for rape. With police promoting such messages, it is understandable why women may be concerned to report their experiences (Bohner et al., 2009). Not only this, but the case of Sarah Everard being brutally raped and murdered by a police officer when walking home is likely to increase fear for victims when seeking support from people who should be trustworthy and protective.

Whilst the media has reported a few devastating stories of sexual trauma, the data indicate that such events may be more prevalent than we might expect. According to data released in March 2021, the Office for National Statistics (ONS) estimate that 7.1% of females aged 16-74 years have been victims of rape or sexual assault, with approximately 1 in 10 women aged between 16-24 years being victimised in the last year. Whilst victim survey data suggest that the prevalence of sexual trauma is high, perpetrators of sexual trauma are frequently not brought to court for a range of reasons. As such, sexual offence rates are likely to be considerably higher than indicated in official criminal justice statistics reported by the police and the Crown Prosecution Service (CPS). As aforementioned, the first stage of attrition occurs when the victim decides not to report the crime, which may occur for a number of reasons. The Crime Survey for England and Wales (CSEW) found that of the 1.6 million adults who have experienced sexual trauma, fewer than 1 in 6 said that they reported

the assault to the police. It is known that reporting rates for sexual trauma are relatively low compared to other serious crimes (Bohner et al., 2009). The CSEW found that among those who did not report to the police, 38% believed that the police would not be able to help. Further, the police may decide not to pursue an investigation, perhaps due to a lack of substantive evidence (CPS, 2012). Following that, some cases will not be brought to trial, and among those that are, there may not be sufficient evidence to convict the perpetrator. It is known that few perpetrators are successfully prosecuted in court (Bohner et al., 2009), with CSEW finding that of 58,856 cases of rape recorded in the year to the end of March 2020, only 2,102 led to prosecutions. This process is likely to discourage other victims from reporting their assault, as some will lack confidence that justice will prevail.

Societal views and beliefs about sexual trauma also contribute to attrition. The term 'rape myths' refers to stereotypical beliefs about what a typical rape or sexual assault situation should look like, including beliefs about the attributes of the victim and the perpetrator (Burt, 1980). These beliefs have been known to impact jurors' decision-making (Bohner et al., 2009; Temkin & Krahé, 2008; Ward, 1995) and can impact how much a victim is blamed for their sexually traumatic experience (Gerger et al., 2007; Ward, 1995). These wider societal beliefs and reactions can impact on a victim's own beliefs, sense of guilt, and recovery following sexual trauma. For example, a belief in such myths is believed to lead to a form of secondary trauma for the victim (Suarez & Gadalla, 2010; Ulman, 1996) as the myths insinuate that blame can be attributed to the victim (Ryan, 1971).

Regardless of whether a victim proceeds to report the rape and whether people around them engage in rape myth acceptance, the experience of sexual trauma has been associated with a range of negative psychological effects. Herman (1992) noted that responses can include experiences of shock, fear, anxiety, confusion and social withdrawal.

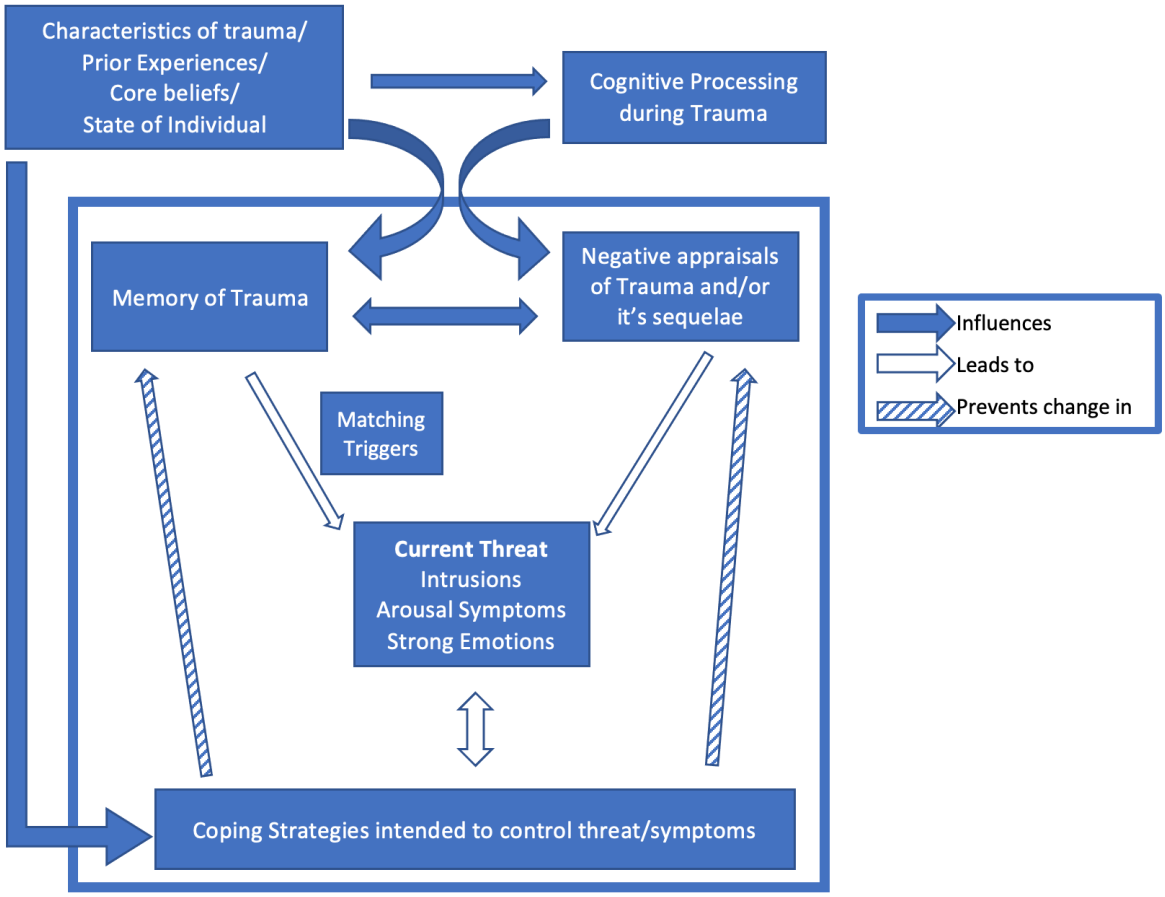
Sexual trauma has also been significantly associated with PTSD symptoms, including distress, intrusions, insomnia and emotional detachment (Rothbaum, 1992). Longitudinal studies have found that such symptoms of distress can remain for a period of at least 2 years following sexual trauma (Koss & Figueredo, 2004a,b). In addition to PTSD symptoms, victims may also experience other mental health issues including depression (Frazier, 1990) low self-esteem (Branscombe, et al., 2003) and alcoholism (Sigurvinsdottir & Ullman, 2015).

What do we know about self-blame following sexual trauma?

Whilst negative psychological outcomes have been associated with sexual trauma, there are a number of factors that may determine the extent to which these outcomes are experienced. Ehlers and Clark's (2000) conceptualisation of PTSD states that trauma appraisals lead to symptoms, including intrusions, arousal symptoms and strong emotions (see Figure 1*),* which overall create a sense of current threat. This perceived threat can be external (with appraisals such as "the world is a dangerous place") or internal (with appraisals such as "I am not a capable person"). Furthermore, the individual may believe that the trauma is more likely to happen to them than other people, resulting in trauma appraisals such as "I attract disaster" or "bad things always happen to me". Such appraisals relate to the concept of characterological self-blame (CSB; Janoff-Bulman, 1979), wherein individuals blame their character and personality when traumatic events occur.

Figure 1

Ehlers and Clark's (2000) Model of PTSD



The idea that appraisals relating to self-blame are associated with distressing trauma outcomes has been evidenced in a range of theories and studies. For example, in the attribution theory of victimisation it is stated that the negative impact of sexual abuse is dependent on whether a victim blames themselves or their perpetrator (Janoff-Bulman and Frieze, 1983). Further, the learned helplessness model (Abramson et al., 1978) outlines that after experiencing a repeated traumatic event, such as abusive behaviours within a relationship, an individual may feel that they are unable to change the experience and therefore they do not attempt to avoid or alter it. They do not perceive themselves to have control over a situation and are in a state of "learned helplessness". In relation to self-blame,

individuals may feel they are deserving of the abusive behaviours and believe that the outcomes are inevitable. This negatively effects their expectations of experiencing similar behaviours in the future, as well as the impact of the behaviour as they experience higher levels of distress and depression (Peterson & Seligman, 1983; Quinless & Nelson, 1988). This can be seen to reflect Ehlers and Clark's (2000) model of PTSD, in which the negative appraisals influence current symptoms.

Attributions of blame, in particular, began receiving research attention when the PTSD construct was revised in the DSM-5 to include '*persistent distorted blame of the self or others'* (American Psychiatric Association, 2013). Broadly speaking, attributions of blame have been seen to be related to the degree of distress experienced by the victim, depression, self-esteem, maladaptive coping, social reactions and problem-drinking (see *Chapter 2* for a systematic review of these relationships). Within the literature there have been some differences concerning how self-blame has been conceptualised and measured, which has decreased clarity regarding whether self-blame is only associated with negative outcomes or whether self-blame can have an adaptive function when recovering from sexual trauma. Thus, establishing reliable findings in research has required a detailed understanding of the concept and construct of 'self-blame'.

Research on the measurement of self-blame has occurred over a number of decades. One of the first measures in relation to sexual victimisation was Meyer and Taylor's scale (1986), which consisted of 24 statements that provided explanations as to why the rape happened. However, prior to this, "self-blame" as a singular concept was being disputed by Janoff-Bulman (1979), who proposed that individuals can attribute blame to static factors, such as personality traits, as well as to dynamic behaviours during the event. She conceptualised these to reflect characterological self-blame (CSB) and behavioural self-blame (BSB) respectively. To develop a more appropriate measure in line with this

development in the construct, Frazier (1990) utilised the 15 items from Meyer and Taylor (1986) and added two specific questions to assess these separate self-blame constructs. After a number of revisions and research developments, the Rape Attribution Questionnaire was developed (Frazier 2003) and is currently the most widely used measure to assess a victim's attributions of blame following sexual trauma.

Overall, given the central role that trauma appraisals play in Ehlers and Clark's model of PTSD and the central role that self-blame plays in recovering from sexual trauma, a greater understanding of blame appraisals and their wider implications for recovery are of importance.

Trauma Memory

Whilst considered an anxiety disorder, many consider PTSD to be a disorder of memory (Brewin, 2003; McNally, 2003; van der Kolk, 2007), as memory disturbances seem to be a key factor in the disorder (Ehlers & Clark, 2000). Memory disturbance includes the involuntary reexperiencing of memory (e.g., intrusions and flashbacks), current threat, and challenges with memory retrieval (Ehlers & Clark, 2000). As will be discussed later in the thesis, the primary evidence used when investigating sexual offences is the statements provided by the victim and perpetrator (Lees, 2002). As such, whether the victim's recollection of events is affected by trauma is of importance in the adjudication of sexual offences.

In relation to Ehlers and Clark's (2000) model of PTSD, memory disturbances can include the reexperiencing of memory and issues with memory recall. The reexperiencing of memory refers to the physical and visual intrusions and flashbacks that individuals can experience after a traumatic event. This type of memory is considered to be unrelated to recollection and thoughts, and instead is a physiological response to the trauma (Ehlers and

Clark, 2000). Koss et al. (2002) found characterological self-blame is be associated with reexperiencing memory, which supports Ehlers and Clark's (2000) model, whereby trauma appraisals are associated with the experience of intrusions.

With regards to memory recall, the experience of trauma has been associated with limited voluntary retrieval of the trauma (e.g., fragmented memory; Harvey & Bryant, 2001). Studies exploring this have demonstrated that individual's face challenges with regards to coherence and the chronological order of events (Halligan et al., 2003). Ehlers et al. (2004) refer to this as disorganisation. Furthermore, it has been recognised that the most traumatic elements of the event can be disjointed from other autobiographical memories (Ehlers et al., 2004).

Ehlers and Clark's (2000) model of PTSD proposes that these memory disturbances are influenced by the individuals' appraisals of the trauma and the coping strategies used to manage the perceived threat. Negative appraisals may consist of beliefs such as "Nowhere is safe" or "I deserve the bad things that happen to me", depending on the way that the individual perceives the experience. This can impact on the way the memory is recalled as individuals recall details that support these appraisals. As well as impacting memory, these appraisals can increase PTSD symptoms, which individuals may attempt to manage with maladaptive coping mechanisms. These coping mechanisms can then inadvertently exacerbate PTSD symptoms in addition to impairing memory (Ehlers and Clark, 2000). For example, individuals may suppress thoughts relating to the trauma (Ehlers & Clark, 2000) or avoid disclosing their traumatic experiences due to anxiety or fear (McNally, 2004; Williams, 1994). The lack of rehearsal can increase the likelihood of memory errors occurring (McWilliams et al., 2014).

However, whilst there is evidence to suggest that trauma memory is impaired, there are also theories proposing that traumatic memories may be better remembered than non-

traumatic memories. As written in The Principles of Psychology, “An impression may be so exciting emotionally as almost to leave a scar upon the cerebral tissues” (James 1890, p. 670). This implies that emotion can enhance episodic memory, which has been reflected in alternate theories and research findings. For example, Brown and Kulik’s (1977) theory on flashbulb memories states that emotional memories are more memorable and detailed. Theories that have explored emotional memories have tended to find that the central and most traumatic elements of memory may be better recalled, whilst peripheral details are fragmented or forgotten (Christian & Loftus, 1990; Easterbrook, 1959). This has been explained in relation to attention, as an individual’s attention is guided by emotion, which subsequently impairs the non-emotional elements of the event (Phelps, 2006). Disengaging from the emotional elements of an experience is challenging, which enhances this effect (Fox et al., 2001).

In sum, there is conflicting evidence with regards to the impact of trauma and emotion on memory. Overall, findings indicate that episodic memory is impaired following a traumatic experience, with peripheral details often being fragmented or forgotten. Whilst central elements of the event remain intact and robust, the overall completeness of the memory is compromised.

Aim of thesis

In light of the previous research, this thesis aims to increase our understanding of self-blame following sexual trauma. This will involve a consideration of trauma outcomes related to self-blame and a specific focus on the implication of self-blame on memory recall. To fulfil these aims, the following objectives have been identified:

1. To understand the implications of victims engaging in self-blame following rape or sexual assault on post-trauma outcomes by conducting a systematic review of the previous literature.
2. To investigate the role that self-blame may have on memory recall following a hypothetical rape scenario by conducting relevant analysis on a secondary dataset.
3. To consider the psychometric properties of the Rape Attribution Questionnaire measure used to assess self-blame following sexual trauma in research.

Summary of chapters

In order to achieve these aims, Chapter 2 presents of a systematic review of trauma outcomes associated with self-blame in the literature. The purpose is to consider the role that self-blame attributions may have in recovery following sexual trauma, and to differentiate between the influence of behavioural and characterological self-blame.

Chapter 3 comprises of research exploring the relationship between self-blame and memory recall. The research involved the analysis of secondary data collected with female undergraduates who had engaged in a hypothetical rape scenario. PTSD symptoms and the role of alcohol consumption and alcohol expectancy were also considered in the analysis. The aim of the research was primarily to examine whether self-blame impacts on memory recall. There was also consideration of whether the data from the hypothetical scenario supported previous research findings, including whether alcohol affects memory completeness, and whether alcohol, self-blame, and memory recall impact on the severity of PTSD symptoms.

In order to assess the measure most widely used to assess self-blame, the fourth Chapter consists of a psychometric critique of the Rape Attribution Questionnaire (Frazier, 2003). The aim of this chapter was to assess the measure's characteristics, reliability, and

validity. Limitations and strengths of the measure are discussed, and conclusions are made about the overall use of the measure.

The final chapter reviews the overall findings from this thesis and concludes with strengths, limitations, and potential implications.

CHAPTER 2:

THE ROLE OF BLAME ATTRIBUTIONS IN RECOVERING FROM SEXUAL TRAUMA: A SYSTEMATIC REVIEW OF THE LITERATURE

Abstract

Attributions of blame have been explored in relation to the effect they have on outcomes following a sexually traumatic event, including trauma symptoms, coping strategies and social effects. However, demographic characteristics within samples and differences in how self-blame has been conceptualised have resulted in contrasting findings. For example, self-blame has been considered in terms of blaming one's personality and character (characterological; CSB) and blaming one's behaviour and decision-making during the event (behavioural self-blame; BSB). Other authors have considered self-blame more broadly as one concept. The current review sought to consider how an individual's blame attributions relate to different post-trauma outcomes, focusing on samples of female victims of sexual trauma from westernised populations. Twenty-four studies were assessed as having acceptable methodological quality and were therefore included in the review. Self-blame as one concept was related to an increase in PTSD symptoms, experiences of psychological distress, depression, lower self-esteem, increased maladaptive coping and decreased perceived control. CSB was related to increased PTSD symptoms, higher distress, higher depression, more alcohol use, increased maladaptive beliefs, and negative social reactions. BSB was related to increased distress, increased depression, more alcohol use, perceived future avoid-ability of assault, more maladaptive beliefs and disclosure to informal sources. Other external attributions were considered and also related to maladaptive outcomes. The findings are explored and compared to consider the factors that may have influenced results. The strengths and weaknesses of the review are considered, and implications of findings are discussed.

Introduction

Trauma

Since the recognition of Post-Traumatic Stress Disorder (PTSD) in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; American Psychiatric Association, 1980); psychological literature has become interested in understanding the complexity of processing traumatic experiences. A traumatic experience can be defined by the presence of stressors that impact on the functioning of an individual, both physiologically and psychologically (Flannery, 1999). The DSM-V (American Psychiatric Association, 2013) provides a definition for trauma in the 'A criterion' for PTSD; stating that an individual has "*exposure to actual or threatened death, serious injury, or sexual violence"* and that the exposure could be either direct, witnessed in person, learning that it has happened, or experiencing repeated or extreme exposure to aversive details of the traumatic event. Whilst such definitions exist, there are subjective differences in the coping and appraisal of traumatic experiences (Bonnano, 2004; Wilson & Drozdek, 2004). Consequentially, there has been difficulty in conceptualising what constitutes a 'traumatic event'. Two individuals could be subject to the same event; however, outcomes could be entirely different. This suggests that whilst trauma may be a particular event or experience, internal processes and other factors can influence the subsequent impact.

Sexual Trauma

One focus in trauma research has been on sexual trauma, encompassing experiences such as rape, sexual assault, and ongoing sexual abuse. Being a victim of sexual trauma has been associated with various negative outcomes, physically, emotionally and behaviourally. For example, victims of sexual trauma have been seen to a have significantly higher prevalence of physical health problems, including arthritis and breast cancer (Stein & Barrett-

Connor, 2000), when compared to non-victims. Additionally, sexual trauma victims have been found to have an overrepresentation of mental health problems compared to non-victims (Ullman & Brecklin, 2002), particularly PTSD, depression and anxiety. Finally, victims of sexual trauma have demonstrated an increased likelihood of engaging in risky behaviours, including substance use and sexual risk-taking (Kilpatrick et al., 1997). Such risky behaviours have also been recognised in the context of offending; with victims of sexual trauma sometimes becoming perpetrators of sexual offending- predominantly in male samples (Glasser et al., 2001). These findings indicate some of the negative effects of sexual trauma and provide insight into how broad the impact can be, disrupting a range of aspects of an individual's life.

Whilst research has focused primarily on the negative effects of sexual trauma, more recently there has been an interest in the potential for positive effects. Post-traumatic growth refers to the positive transformation from experiencing a traumatic event (Tedeschi & Calhoun, 2004). It can be seen to occur when an individual is adapting to negative experiences that induce significant levels of distress. The positive transformation does not happen specifically as a result of the trauma, but in how the individual manages the challenges in the aftermath of the trauma. This management influences the extent to which posttraumatic growth can occur (Tedeschi & Calhoun, 2004). Grubaugh and Resick (2007) found nearly half of their sample reported a moderate degree of post-traumatic growth from their experiences. However, as with negative traumatic impacts, a number of factors influence the experience of post-traumatic growth (McElheran et al., 2011).

Demographic Factors influencing the impact of Sexual Trauma

There has been some consideration of the demographic characteristics that may influence sexual trauma outcomes within the literature. For example, with regard to gender, Little and Hamby (1999) found that female victims of child sexual abuse appeared to

experience greater difficulty with their self-esteem, interpersonal relationships, sexual intimacy and work roles during their adult life in comparison to male victims, despite similar descriptions of abuse. Banynard et al. (2004) explored the role of gender on post-sexual trauma outcomes further, finding that female victims reported higher levels of anxiety and depression. Victim age is also associated with the impact of trauma. Burnam et al. (1988) found evidence that the age of fourteen is a developmental boundary associated with mental health outcomes following a sexual assault, with those below fourteen experiencing more detrimental outcomes post-trauma compared to those above fourteen. Further, Alameda et al. (2015) explored adults aged 18-35 years and found that the younger adult victims of sexual and physical abuse had lower levels of functioning (as measured by the Global Assessment of Functioning (GAF) scale and the Social and Occupational Functioning Assessment Scale (SOFAS)) post-trauma compared to older victims, indicating that younger age may relate to more maladaptive outcomes.

Cultural differences also seem to be related to how sexual trauma may be processed. It was previously queried whether the way in which PTSD was conceptualised in the DSM-III could be applied internationally (Friedman, 2007), promoting exploration of cultural differences post-trauma. Cultures vary in individual rules with respect to social roles, structures, hierarchy, and mechanisms for coping with sexual trauma (Wilson, 2007); impacting the interpretation and appraisal of traumatic experience. Cowburn et al. (2015) explored how British South Asian communities discussed sexual abuse; finding that they often support patriarchal values and consequently victims are often silenced or blamed for their abuse- influencing subsequent outcomes. Furthermore, Neville and Heppner (1999) suggest that adaptation to traumatic events is the result of a person-environment interaction. They proposed a culturally inclusive ecological model of recovery for sexual assault, suggesting that culture impacts on the entire recovery process and severity of post-trauma

symptomology. Whilst culture influences outcomes, Deitz et al. (2015) criticised the model due to neglecting the impact of social and self-related aspects; inferring that there are a multitude of variables influencing post-trauma outcomes.

Other Individual Difference Factors influencing the impact of Sexual Trauma:

Other individual differences that may influence the impact of sexual trauma have been explored, including the victim's coping strategies, schemas and blame attributions. Frazier and Burnett (1994) investigated the relationship between coping and post-rape outcomes, finding that strategies such as staying home and withdrawing were associated with higher symptom levels on the Beck Depression Inventory (BDI; Beck et al., 1961). Further, in a meta-analysis reviewing thirty-nine studies, Littleton, Horsley and Nelson (2007) found that avoidance coping was significantly associated with distress post-trauma, whilst approach coping strategies were not. The meta-analysis considered a range of trauma-types, however, 21 out of the 39 studies looked at sexual trauma. Whilst differences between trauma-types were not explored, the findings may indicate that coping strategies lead to poorer outcomes for sexual trauma.

Concerning schematic beliefs, Dutra et al. (2008) found that risk of suicide post-trauma significantly correlated with maladaptive schemas, including those associated with social isolation, defectiveness and failure. An individual's schemas may be related to the subsequent coping strategy, such as becoming more avoidant and isolative. Resick and Schnicke (1992) put forward an information-processing model of interpersonal trauma; the model proposed that interpersonal trauma threatens a victim's schematic beliefs, such as beliefs that the world is safe. Victims then resolve this discrepancy with coping strategies to make sense of the trauma, such as minimising the trauma, altering their existing schemas, or completely changing their schemas to something maladaptive. Littleton (2007) developed this model further with rape victims; finding that victims' coping patterns were related to

schematic beliefs of distress and poor self-worth. Such findings demonstrate the interplay of thoughts and behaviours, and how they can subsequently impact on post-traumatic outcomes, highlighting the complexity in trauma recovery.

A victim's attribution of blame for sexual trauma has been conceptualised as both a negative self-schema (Feiring et al., 2010), and a coping strategy (Janoff-Bulman, 1979). Further, the implications of blame attributions on the outcomes following trauma have been explored, and these are considered in detail in the next section.

Blame Attribution and the Impact of Sexual Trauma

Victims of sexual trauma have been observed to have some of the highest levels of self-blame and PTSD symptoms compared to victims of other forms of trauma (Moor & Farchi, 2011). The implication of different blame attribution received increasing interest within the literature following the revision of the PTSD construct in the DSM-5 to consider '*persistent distorted blame of the self or others'* (American Psychiatric Association, 2013). It has been considered that attributions of blame and PTSD symptoms are interrelated, with severe self-blame increasing PTSD symptomology. Attribution theory has suggested that the negative impact of sexual abuse is dependent on whether a victim blames themselves or their perpetrator (Janoff-Bulman and Frieze, 1983). This is also reflected in the learned helplessness model (Abramson et al., 1978), which suggests that an individual's attribution of blame predicts the impact of an event. For example, after experiencing a repeated stressful situation, an individual may believe that they cannot change the situation and therefore do not attempt to avoid or alter it- they have "learned helplessness". Consequentially, this affects their expectations of future outcomes and the subsequent impact of future events (Peterson & Seligman, 1983; Quinless & Nelson, 1988).

However, findings in the literature suggest that such explanations may be too simplistic, with research suggesting that self-blame can be both adaptive and maladaptive (Janoff-Bulman, 1979). In turn, this has led to some varying conceptualisations of "self-blame". Some researchers have treated "self-blame" as one entity (Russell, 1982), however, Janoff-Bulman (1979) distinguished two types of self-blame: characterological and behavioural. Characterological self-blame (CSB) is considered as more intrinsic; part of the individual's personality: "*I was assaulted because I am weak and vulnerable*". Alternatively, behavioural self-blame (BSB) can be attributed more specifically to the event: "*I was assaulted because I had too much to drink*". These different conceptualisations of self-blame appear to have differing impacts on outcomes; with the suggestion that this is due to perceived control (Janoff-Bulman, 1979). For example, if an individual blames themselves based on their internal traits, then this promotes the idea that they are unchangeable and suspect to future victimisation, reducing control. However, if an individual blames their behaviour then this is adaptive; enabling them to have control and avoid victimisation in the future. These two conceptualisations can explain some of the differences across findings in the literature.

Whilst CSB has frequently been seen to predict greater PTSD symptoms (Ullman et al., 2007); the impact of behavioural self-blame has lacked clarity. As aforementioned, Janoff-Bulman (1979) initially suggested that perceived control enables BSB to lower levels of distress and anxiety. Whilst it has been found that perceived control is related to fewer PTSD symptoms (Larsen & Fitzgerald, 2011), researchers have tried and failed to replicate the relationship between perceived control and blame (Frazier, 2003); suggesting that the relationship may be more complex.

Whilst self-blame may not influence positive outcomes due to increased control, it has been suggested that self-blame more broadly may be a necessary process to enable

subsequent post-traumatic growth (Kaye-Tzadok & Davidson-Arad, 2016). Previously, Tedeschi and Calhoun (2004) argued that post-traumatic growth develops from initial feelings of distress. Kaye-Tzadok and Davidson-Arad (2016) argued that this initial distress may be interrelated with feelings of self-blame, with self-blame then predicting the variance in post-traumatic growth in female sexual abuse victims. This demonstrates that, whilst unrelated to perceived control, self-blame can have a positive influence following sexual trauma.

In summary, the relationship between blame attributions and outcomes are complex. The complexity has led to controversy with regards to its addition to PTSD criteria (Greene, 2018); with further clarification of blame conceptualisation and measurement being required. Contrasting research could be the result of a range of issues, including methodological differences, varying measures and conceptualisations, differing sample types or other individual differences. At present, no systematic reviews have considered how blame attributions influence sexual trauma outcomes. Reviewing the literature systematically could enable a better understanding of the relationships between self-blame and traumatic outcomes. Taylor, (2017) indicates that blame is important to address in trauma intervention; thus, clarification of the impact of blame could have relevant clinical application.

The current review aimed to systematically examine research exploring the relationship between blame attributions and trauma outcomes. Objectives of the current review were to explore:

1. Which blame attributions influence different trauma outcomes
2. Possible mediators of the relationship between blame attributions and outcomes, or whether blame attributions act as the mediator

Method

Scoping

An initial scoping exercise was completed on the Cochrane database to see if there were any reviews on this topic area; no reviews were found. Next, a scope of the existing literature was carried out to consider the quantity of research in this area, define the parameters and refine the criteria of the review. The scoping exercise demonstrated how *trauma* as a search term was too broad, as it included traumatic brain injury (TBI) and other physical injuries, which were not relevant. As a result, the focus of the review was narrowed to specifically considering types of sexual trauma, excluding that of TBI, ACEs and other emotional or childhood traumas. Further, the search terms used to identify the relevant participants (female victims) did not prevent other participants from being generated in the search results. Therefore, the Boolean operator NOT was utilised to narrow searches and exclude male participants and children.

Sources of Literature

A search was carried out on the 9th January 2021 on the following electronic databases: Ovid PsycINFO (1967-January Week 1 2020), Ovid PsycARTICLES Full Text (1894-January Week 1 2021), Ovid MEDLINE (1946-January Week 1 2021), Ovid Embase (1974-2021 January 09) and Web of Science (1900-January Week 1 2021). Financial constraints meant that only papers written in English were included. Further, grey literature was excluded as dissertation studies and other unpublished studies are more likely to be methodologically flawed and can be time consuming to retrieve (Vickers & Smith, 2000). Whilst it has often been considered that excluding non-peer reviewed or unpublished sources increases bias in reviews, Schmucker et al. (2017) found that overall, meta-analytic findings were not significantly impacted by the inclusion of unpublished or grey literature data.

Search Terms

The broad search terms to consider were that of blame, sexual violence, female victims and traumatic impact/outcomes. Synonyms for these terms were utilised to minimise the likelihood of overlooking papers. Search terms can be seen in Figure 2:

Figure 2

Search Terms Used to Recruit Relevant Papers

Self-blam with any letters following this, for example self-blame, self-blaming, self-blamed ***OR***
Blam with any letters following this, for example blame, blamed, blaming, blamer

AND

Sex abus with any letters following each word, for example sex abuse, sexual abuse, sexually abused, sexually abusing ***OR***
Rape with any letters following this, for example raped ***OR***
Sex assault with any letters following each word, for example sexual assault, sexually assaulted, sexually assaulting ***OR***
Sex trauma with any letters following each word, for example sexual trauma, sexually traumatised, sexually traumatic ***OR***
Sex viol with any letters following each word, for example sexual violence, sexually violent

NOT

Hypothetical ***OR***
Mock ***OR***
Vignette

AND

Victim ***OR***
Victims ***OR***
Survivor ***OR***
Survivors

AND

Femal with any any letters following, for example female or females ***OR***
Woman where the A could also be an E, for example women

NOT

Male with any letters following, for example males ***OR***
Man where the A would also be an E, for example men ***OR***
Child with any letters following, for example children ***OR***
Teen with any letters following, for example teens, teenager or teenagers ***OR***
Adolescen with any letters following, for example adolescent, adolescents or adolescence

AND

Post-trauma with any letters following, for example post-traumatic, post-traumatised, post-traumatising ***OR***
Impact with any letters following, for example impacts, impacted and impacting ***OR***
Outcome with any letters following, for example outcomes ***OR***
Effect with any letters following, for example effects, effected and effecting ***OR***
Influen with any letters following, for example influence, influences influenced, influencing ***OR***
PTSD ***OR***
Trauma growth with any letters following trauma, for example traumatic growth, traumatised growth, traumatising growth

Inclusion and Exclusion Criteria

To identify articles for this systematic review, titles and abstracts of all 293 retrieved articles were initially hand-searched, applying the Population, Intervention and Outcome (PIO) framework. This focuses on the population (e.g., female victims of sexual trauma), the intervening variable (e.g., measures of self or perpetrator blame) and the outcome (e.g., the impact of trauma). In addition to these criteria, the study design and language of the article were considered. Table 1 outlines the inclusion and exclusion criteria in relation to the PIO framework, followed by details and the rationale of each criterion:

Table 1

Inclusion and Exclusion Criteria

PIO	***Inclusion Criteria***	***Exclusion Criteria***
Population	• Females • Age of legal sexual consent (between 16 and 18 years: most studies included women from16 or 17 years and over) • Sexual trauma victims: rape, sexual assault, sexual abuse, sexual violence, sexual trauma. • Sample from western country population (e.g., UK/USA/Europe/Australia)	• Males, children • External to victim • Samples focused on specific minority population/culture/ethnicity • Child sex abuse • Other physical violence
Intervening Variables	• Blame attributions measured, either scale data (e.g., psychometric) or categorical • Blame must be attributed by the victim • Can be characterological or behavioural self-blame or self-blame treated as one concept	• Attributions made by external individuals • Victim's perceptions of victim blame • Themes of self-blame with no specific measure
Outcome	• Measuring the trauma outcomes: PTSD, mental health, substance use, disclosure, revictimization, etc.	• Changes in individual differences pre versus peri trauma
Other	• Case Control design (comparisons of blame attributions in relation to trauma outcomes) • Could be a cohort study • English papers	• Qualitative • Papers that could not be obtained • Papers not in English

Population

The focus of the current systematic review was on female victims of sexual trauma, due to most victims of sexual trauma being female (as noted in the 2020 Crime Survey for England and Wales) and due to the potential implications of gender on sexual trauma recovery (Burnam et al., 1988). Female victims included in the review were of at least legal consenting age for sex at the time of their sexual trauma and participation in the study (e.g., at least 16-18 years, depending on the country/state). This was to exclude child sex abuse, limiting some of the potential implications of both age and memory on outcomes, as described in the introduction. Sexual trauma broadly encompassed rape, sexual assault, and sexual abuse. The sexual trauma could have been a single event or occurred on multiple occasions, and the perpetrator-type was not restricted for the review. Hypothetical/mock trauma was excluded. Due to the cultural influence on the way sexual trauma may be appraised or perceived, (such as that discussed by Cowburn et al. (2015) when exploring views within British South Asian communities), studies specifically exploring minority samples were excluded from the review.

Intervening Variable

It was a necessity that studies measured blame attributions, however, the way blame attributions were measured was not stipulated by the present author. Blame could have been measured dichotomously, splitting victims into groups of 'blaming self' and 'external blaming', or measured via scale data to establish the level to which one blames themselves or others for their victimisation. It was required that blame was attributed by the victim.

Outcome

Studies included in the review were required to have considered the effect of blame attribution on the outcome of their sexual trauma. '*Outcome'* could consider a range of

possible measures/factors including: Post-Traumatic Stress Disorder, mental health outcomes, substance use, treatment implications or trauma disclosure. The broad conceptualisation of 'outcomes' allowed the review to consider the wide influence of blame attributions on sexual trauma, enabling potential implications for trauma-intervention.

Other Criteria

Study design was considered in relation to Other criteria. The optimal study design is considered to be that of randomised control trials (RCTs), however, due to the nature of the systematic review aims, such studies were not appropriate as treatment outcomes were being assessed and control groups were not considered. Both the Case Control study design and Cohort design were the most applicable. Case Control studies often involve the comparisons of participant groups with regards to a specific outcome, however, no comparison groups were required for this review; one sample group was appropriate. Cohort studies are often longitudinal studies considering outcomes at various intervals. This could involve measures of blame attributions overtime in relation to outcome variables. Finally, due to both time and financial constraints, only papers written in English were included in the review.

Applying the Criteria

Of the 293 papers identified, 245 were excluded based on titles and abstracts. This left 48 papers of possible relevance, which were read in full. Reference lists of these papers were also consulted manually, to consider any other potential papers relevant for the present review. No further papers were identified on this basis. The criteria were applied to the 48 papers, and articles were excluded when they did not meet the inclusion criteria. Further, articles were excluded if they were reviews, dissertation abstracts or conference proceedings. *Appendix A* demonstrates the application of the PIO criteria to the 48 studies.

Assessment of Methodological Quality

Assessing the methodological quality of the relevant studies is an important step when conducting a systematic review. When the methodological quality of a study is insufficient, results from that study cannot be trusted; subsequently impacting on the reliability of the review (Higgins et al., 2019). Various tools exist to assess methodological quality. One tool is that of the Case Control Study checklist by the Critical Appraisal Skills Programme (CASP, 2018). CASP have been recognised for the development of various checklists for different research designs; with Section A of the checklists being used to evaluate methodological quality and Sections B and C being used for evidence-based practice (Zeng et al., 2015). CASP checklists have been recognised as providing a structured approach for screening research that is more timely and easier to follow than other checklists (Singh, 2013).

To assess the methodological quality of the studies suitable for the review, Section A of the Critical Appraisal Skills Programme (CASP, 2018) Case Control Study and Cohort Study checklists were used (see *Appendix B* for examples of these checklists). Most of the criteria in these tools are similar, thus, the criteria were combined to develop a tool that sufficiently measured both study-types. The questions were then further adapted to meet the PIO criteria of the review. Sections B and C were excluded due to the studies in the review not assessing evidence-based practice or intervention. The final tool consisted of six questions, looking at the focus of the study, the method used, participant recruitment, the accurate measure of intervening variables, the accurate measure of outcome and the consideration of confounding variables.

The Critical Appraisal Skills Programme checklist offers three possible responses to questions: *Yes, Can't Tell,* and *No*. A *Yes* response was scored 2, a *Can't Tell* response was scored 1 and a *No* response was scored 0. Therefore, the highest possible score was 12.

Responses to the first two questions (considering the issue that the study is addressing and whether the appropriate method was utilised) had to be sufficiently met before the remaining questions could be considered, as per CASP recommendations. A sufficient response was considered as anything except for 'No'. If questions were scored as 1 or 0, the reasons for doing so were documented to highlight limitations.

To meet sufficient quality criteria, studies were required to have a minimum of 75% quality (a score of 9) to be included in the review, to ensure review results and conclusions were drawn upon good quality research.

The quality of all 26 studies meeting PIO criteria was assessed (*Appendix C).* Seventeen of the twenty-six studies (approximately 65%) had strong methodological quality, scoring at least 11 out of 12. Six studies scored either 9 or 10 out of 12, demonstrating moderate methodological quality (approximately 23%). Areas of possible concern in these studies were predominantly around small samples, samples lacking generalisability and not accounting for potential confounding factors in design or analysis. For example, whilst Ullman and Najdowski (2011) considered some confounding variables, there was no consideration of any possible significant events between data collection at time one and time two, which could impact the outcome measures.

The remaining two studies were excluded based on methodological quality. Donde (2017) scored 8/12 (67%) and Vidal and Petrak (2007) scored 7 out of 12 (58%), thus were also excluded. Details concerning the weaknesses and reasons for exclusion can be seen in *Appendix C.* The process for excluding studies can be seen in Figure 3 below.

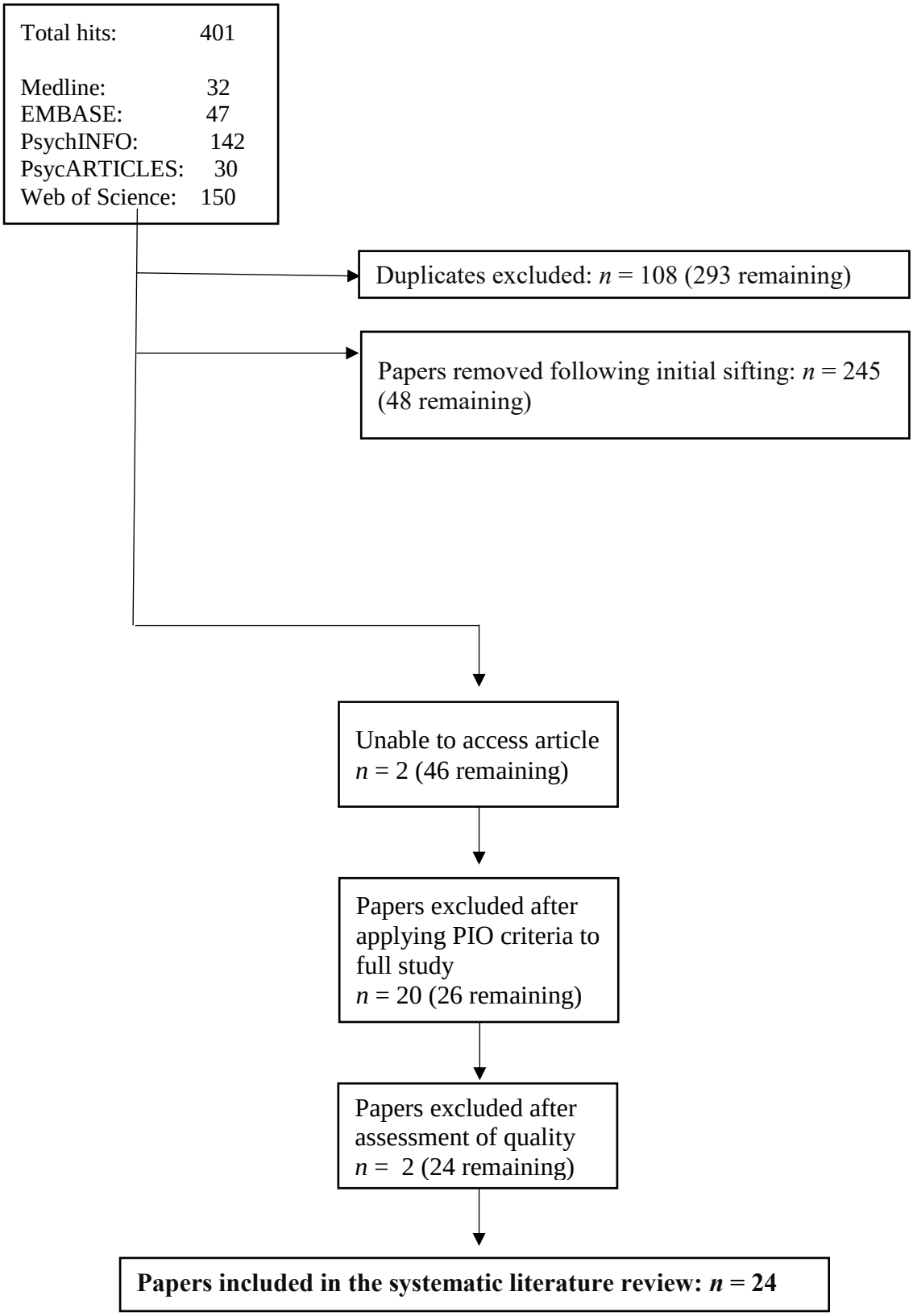
Data Extraction

Data were extracted from the remaining twenty-four studies. A standardised approach was utilised via a proforma developed by the present author. The proforma considered the PIO criteria, with the following information recorded:

- The aim of the study
- Population (sample features)
- Intervening variable (blame attributions)
- Measure of outcome (PTSD/alcoholism/etc.)
- Details of other variables measured
- Analysis used
- Findings and Conclusions

Figure 3

Search Results



Results

Data from eligible studies were synthesised with consideration of the sample, measures and findings. The aims of some studies (described in Table 2 below) were inconsistent with the aims of the present review, however, they were included because they still had relevant characteristics. For example, Reich, et al. (2015) focused on the role of self-blame in adjusting to intimate partner violence, however, victims specifying sexual abuse were considered separately in the analysis and so this cohort were focused on in this review.

Heterogeneity was observed in relation to sample characteristics, trauma type, measures of self-blame and outcome measures. As a result of this, direct comparisons between studies were not always possible and so data was considered qualitatively in this instance. This enabled themes to be identified, in which data could then be synthesised on a quantitative and objective basis.

Table 2
Data Extraction

STUDY			POPULATION		INTERVENTION [INTERVENING VARIABLES]			OUTCOME		
NO.	***Author(s) (year) Title***	***Aim of the study***	***Sample Size***	***Sample Characteristics***	***Measure/any other details***	***How were blame attributions measured?***	***Were there any other factors measured?***	***What trauma outcomes were measured?***	***Analysis used***	***Was blame associated with outcome?***
1	Branscombe, Wohl, Owen, Allison & N'gbala. (2003) Counterfactual thinking, blame assignment, and well-being in rape victims	To consider the relationship between counterfactual thinking, blame assignment and well-being	85 females	Rape victims Undergraduates, US study. 90% white, 94% unmarried Age 17-42, mean 20.	Checked via objective questioning (yes/no) Occurred within last year for 26% of sample, over a year ago for rest. No differences in wellbeing between the two, 87% knew their assailant- consistent with national statistics	Scale data- degree they blamed themselves, the rapist and power of men in society (rated from 1-7)	Counterfactual thinking- asked how they may have done things differently (non-leading question)	Wellbeing measures: 21-item depression scale (scored 0-6), 20-item self-esteem scale (scored 1-7), 1-item current perceived control scale (scored 1-7)	Confirmatory Factor Analysis and Chi-squared to test different conceptual models.	Self-blame predicted negative counterfactual thinking. Self-blame mediated relationship between counterfactual thinking and adjustment. Self-blame negatively predicted psychological well-being.
2	Brietenbecher (2006) The Relationships Among Self-Blame, Psychological Distress, and Sexual Victimization.	To consider the relationship between blame attributions, psychological distress and sexual victimisation	Initially 416 females- 224 identified victims used	Rape Victims Undergraduates, US Study 90% white, 16% married Age 17-53, mean 21.7	Checked via Modified SES* (mean score 2.5/9) 88% knew their assailant- consistent with national statistics	SVAM*: Scored extent that items explain why they were assaulted (Rated from 1-5). Blame split to: perpetrator, characterological self, behavioural self, societal, situational.	Situational Factors survey	Psychological distress: SCL-90-R* 1-item Perception of future avoid ability scale (scored 1-5)	Correlations, multiple regression analysis	Only characterological self-blame significantly predicted psychological distress. Sig. correlation between Global Severity Index and character. Self-blame, and GSI and societal blame. Perception of future avoid ability correlated with perpetrator blame, behavioural self-blame, situation blame and societal blame.
3	Frazier (1990) Victim attributions and post-rape trauma.	To assess the relation between victim attributions and adjustment post-trauma	67 females	Rape Victims Part of a SARS* in Minneapolis Minnesota 81% white, 85% single At least 16, mean 27 years	Assessed via SARS*- all penetrative rape (oral, anal or vaginal). Mostly assessed within 3 days post-rape. 56% raped by stranger	Behavioural and characterological blame scales (scored 1-5) and scales on self, rapist, chance and society blame (scored 1-5) and causes rated on internality, stability, globality and controllability	Whether future rape could be avoided	BDI* for depressive symptoms to measure adjustment	Correlations and regressions	Both behavioural and characterological blame were associated to increased depression, as was general self-blame. Lacked distinction between behavioural and characterological- similar results.

NO.	*Author(s) (year) Title*	*Aim of the study*	*Sample Size*	*Sample Characteristics*	*Measure/any other details*	*How were blame attributions measured?*	*Were there any other factors measured?*	*What trauma outcomes were measured?*	*Analysis used*	*Was blame associated with outcome?*
4	Frazier (2003) Perceived control and distress following sexual assault: a longitudinal test of a new model.	To consider the relations between control and distress	171 females	Rape Victims Participants had been seen in a sexual assault emergency room and had counselling with a SANE* Midwestern metropolitan area 77% Caucasian Ages 16-52, mean 27 years	Had all been seen by a SANE* and study done in conjunction with programme 45% assaulted by stranger	RAQ* measuring behavioural and characterological self-blame, rapist blame, societal blame and chance. (scored 1-5)	RAQ* also assesses three aspects of control- present, future, and likelihood of future assaults. (1-5)	Psychological distress measured by- BSI* subscales for depression, anxiety and hostility.	Cross-sectional analysis, regression analyses, correlations	Relationship between behavioural blame and distress. Decreases overtime in behavioural self-blame and distress.
5	Grahams et al. (2019) Sexual Assault, Campus Resource Use, and Psychological Distress in Undergraduate Women	To describe characteristics of women who used campus survivor resources following a sexual assault and the correlates of resource use	362 females	Sexual Assault Victims Participants were undergraduates recruited by an email notice. 79% white and 81.5% heterosexual. 18-24 years, mean 20.21	SES-SFV* used	RAQ*- 3 subscales- behavioural, characterological and perceived control over recovery (scored 1-5)	Perceived control over recovery via RAQ*	MHI-18* to assess mental health, and resource used assessed	Chi-square tests, t-tests, correlations and multiple regression	Self-blame associated with poorer mental health outcomes. Campus resource positively correlated with self-blame. In particular, less CSB predicted better overall mental health.
6	Hamrick & Owens (2019) Exploring the mediating role of self-blame and coping in the relationships between self-compassion and distress in females following the sexual assault	To explore the role of self-compassion for understanding post-assault self-blame and distress.	207 females	Sexual Assault victims (any forced contact) Recruited via research announcements online 85.5% white Ages 18-66, mean 27.07 years US study	Determined by questions made by researcher. Experience of forced sexual contact 16+. At least one occurrence, reported number of incidents from 1-150. 23.7% reported only one incident. 4% reported more than 12. Average 6.02 years since last assault.	2 subscales from RAQ* to measure behavioural and characterological self-blame (scored 1-5).	Self-compassion measured by SCS-SF* (scored 1-5)	PCL-5* to assess PTSD symptoms, depression measured by 7 item DASS*	Correlations and mediation models	Lower self-blame related to lower PTSD and vice versa. Relationships predicted my levels of self-compassion. Higher self-compassion predicted higher self-blame, but compassion levels didn't directly predict PTSD.

NO.	*Author(s) (year) Title*	*Aim of the study*	*Sample Size*	*Sample Characteristics*	*Measure/any other details*	*How were blame attributions measured?*	*Were there any other factors measured?*	*What trauma outcomes were measured?*	*Analysis used*	*Was blame associated with outcome?*
7	Harris et al. (2020) Multiple perpetrator sexual adult: Correlates of PTSD and depressive symptoms in a sample of adult women	To explore factors that correlate with PTSD and depressive in a specific cohort of individuals who had experienced multi-perpetrator assaults.	350 females	Sexual Assault Victims Experienced multi-perpetrator assaults, recruited in Chicago area, 59% African American, 18-67 years, mean 36 years	Screened for unwanted sexual experience. Stressful life events and assault characteristics assessed. 92% were rape.	RAQ* subscales for characterological and behavioural self-blame (scored 1-5)	Perceived control over recovery also assessed with RAQ*. Brief COPE* self-blame scale also considered	Depressive symptoms assessed with CES-D-7* and PTSD symptoms with PDS*	Correlations, backward regression	CSB correlated with PTSD and depression, CSB contributed to model for PTSD and depression at p. <.10 but not to significance of p.<.05
8	Hill & Zautra (1989) Self-blame attributions and unique vulnerability as predictors of post-rape demoralization	To assess whether attributions can be modified and the effect this has on outcomes	36 females	Rape Victims Recruited from rape crisis centres, newspaper ads or college course. Most women single and Caucasian. Age range 18-62 years mean 26 years. US Study	97% raped by non-relative within 1.5 years of study. 63.9% knew attacker, mean time since rape 8.1 months.	Questionnaires developed by researcher, 12 characterological and 12 behavioural attribution scales (scored 1-5)	Measured perceived changeability of same attributions (scored 1-5) external attributions also added to disguise hypotheses	PERI-D* to measure psychological distress	ANOVA	Characterological self-blame predicts demoralisation. Perceived changeability of sources of self-blame was unrelated to demoralisation, suggesting perceived control is not the reason for self-blame predicting demoralisation
9	Koss, Figueredo & Prince (2002) Cognitive mediation of rape's mental, physical, and social health impact: Tests of four models in cross-sectional data.	To test a cognitively mediated model of processing rape to consider pathways to health outcomes	267 females	Rape Victims Recruited by a postal survey- 5411 females mailed. 88% anglo,, 16% single, 54% married or living with a partner. Arizona. Mean age 38	SES* to measure rape. Mean length of time since rape was just under 16 years, rang 0-44 years.	RAQ*: 3 subscales of characterological, behavioual and external blame (1-5)	Range of measures covering personological characteristics, maladaptive beliefs and memory	Health outcomes measured with BSI*, posttraumatic stress diagnostic scale and social adjustment scale. Memory factors assessed with MCQ*	ANOVA	Self blame were dominant in effecting health outcomes. CSB was harmful to outcomes whilst BSB was protective to distress, however, both scales were correlated. Both CSB and External Blame had direct effects on Reexperiencing Memory.

NO.	Author(s) (year) Title	Aim of the study	Sample Size	Sample Characteristics	Measure/any other details	How were blame attributions measured?	Were there any other factors measured?	What trauma outcomes were measured?	Analysis used	Was blame associated with outcome?
10	Koss & Figueredo (2004) Change in cognitive mediators of rape's impact on psychosocial health across 2 years of recovery": [Correction to Koss and Figueredo (2004)**] (2004a)	To replicate their other study (below) from longitudinal approach whilst considering appropriate analyses given the sample size	59 females	Rape Victims From different community services, via posters, flyers, mailing, etc. All first contact was via telephone. Arizona. Age range 18-57, mean 29.5 years. 81% White, 57% single 10% married.	Screened via SES* didn't include word rape. Done via telephone. 36% strangers. Occurred within the prior 3 months.	RAQ*, measuring behavioural self-blame, characterological self-blame and external blame (1-5)	Measured maladaptive beliefs by McPearl Belief Scale, Revision D.	PTSD symptoms measured on PDS, psychopathology measured on BSI(, social maladjustment measured on SAS*	Multivariate Aggregation, Growth curve analysis	CSB, BSB, and external blame decreased over 2 years, as did psychological distress, psychopathology, PTSD symptoms and social maladjustment. CSB was not a significant predictor of distress after accounting for maladaptive beliefs. Only reduction in BSB was related to reduction in maladaptive beliefs. Reduction in BSB accounted for decrease in distress. Both self-blames were unhelpful. External blame did not predict distress or maladaptive beliefs.
11	Koss & Figueredo (2004) "Cognitive Mediation of Rape's Mental Health Impact: Constructive Replication of a Cross Sectional Model in Longitudinal Data": Errata.* (2004b)	To replicate previous cross-sectional studies in longitudinal data, looking at whether across time, distress would stimulate cognitive processing.	59 females	Rape Victims From different community services, via posters, flyers, mailing, etc. All first contact was via telephone. 81% White, age range 18-57, mean age 29.5. 57% single, 10% married or living with partner.	Screened via SES*- didn't include word rape. Done via telephone Occurred within 3 months	RAQ*, measuring behavioural self-blame, characterological self-blame and external blame (1-5)	Measured maladaptive beliefs by McPearl Belief Scale, Revision D.	PTSD symptoms measured on post-traumatic diagnostic scale, psychopathology measured on brief symptom inventory, social maladjustment measured on Social Adjustment Scale	Multivariate Aggregation, Growth curve analysis	Characterological self-blame indirectly promoted psychosocial distress. This was mediated by maladaptive beliefs. Unable to replicate that behavioural SB was protective against distress. The direction of relationship suggested protective, but non-significant.

NO.	Author(s) (year) Title	Aim of the study	Sample Size	Sample Characteristics	Measure/any other details	How were blame attributions measured?	Were there any other factors measured?	What trauma outcomes were measured?	Analysis used	Was blame associated with outcome?
12	Littleton & Breitkopf (2006) Coping with the experience of rape	To see how negative sequelae of an assault (e.g. self-blame) effected coping strategies	216 females	Rape Victims Recruited from psychology department at US university, Virginia. Demographic data collected from another study- age range 18-22, mean 19.01 83% Caucasian. All had disclosed assault.	Screening questions about sexual experience used. Done online 63% rape when incapacitated 73% non-romantic relationship to assailant. 1% reported assailant was stranger.	Meyer and Taylor scales assessing BSB and CSB (1-5) scales were merged to have one self-blame factor due to low alpha coefficient of CSB sub-scale	SRQ*, world assumptions scale, people in your life, also all measured.	CSI* measured engagement and disengagement coping (approach and avoidance respectively)	Multiple regression	Self-blame was a predictor of avoidance coping strategies
13	Najdowski & Ullman (2009) PTSD symptoms and self-rated recovery among adult sexual assault survivors: The effects of traumatic life events and psychosocial variables.	To consider relationship between trauma, self-blame, perceived control, coping strategies and PTSD symptoms in adult sexual assault victims	969 females	Sexual Assault Victims Large sample recruited via adverts and flyers in Chicago Mean age 32, 58% single, 27% were married or cohabitating 40% Caucasian, 43% African-American	Assessed via SES*, including rape (77%) and attempted rape (9%) and sexual coercion (10%) and unwanted sexual contact (4%). Average 21 years at assault, average around 13 years since assault. .	RAQ* behavioural and characterological scales (1-5), scales were combined. Also computed blame via items from the brief COPE scale. All measured combined to create reliable measure.	Perceived control, maladaptive coping, adaptive coping, and traumatic life events	PTSD symptoms on PDS*, self-rated recovery and coping scale	Structural equation modelling framework	Self-blame had a direct positive effect on PTSD symptoms. Partially mediated by maladaptive and adaptive coping.
14	Peter-Hagene and Ullman (2014) "Sexual assault-characteristics effects of PTSD and psychosocial mediators: A cluster-analysis approach to sexual assault types": Correction to Peter-Hagene and Ullman (2014)**.	To consider how alcohol-related and violent sexual assaults predict PTSD, considering mediators of this effect	887 females	Sexual Assault Victims Large sample recruited via adverts, university email and fliers in Chicagoland area 38% African-American, 41% white. Age range from 18-69, mean 34.51 years.	Assessed via SES, modified version. Severity measured. Mostly completed rapes, 57.5% reported thinking lives were in danger, 22% stranger, acquaintance or first date 38%, 31% had been drinking, 33% perpetrator had been drinking Time since offence not specified	RAQ* behavioural and characterological scales (1-5)	SRQ* for social reactions, Brief COPE* to measure coping strategies	PTSD symptoms on PDS*	ANOVA, Chi-Squared, Tukey post-hocs.	Characterological self-blame mediated relationship between assault type (alcohol/violence_ and PTSD symptoms. However, assault characteristics predicted both behavioural and characterological self-blame. Alcohol assaults-more behavioural self-blame.

NO.	Author(s) (year) Title	Aim of the study	Sample Size	Sample Characteristics	Measure/any other details	How were blame attributions measured?	Were there any other factors measured?	What trauma outcomes were measured?	Analysis used	Was blame associated with outcome?
15	Peter-Hagene and Ullman (2018) Longitudinal Effects of Sexual Assault Victims' Drinking and Self-Blame on Posttraumatic Stress Disorder	To consider the role of blame in mediating the relationship between pre-assault drinking and PTSD	1013 females	Sexual Assault Victims Large sample recruited via adverts and fliers, craigslist, emails and agencies. Metropolitan area. 18-71 years, mean 37.89 years. 47% African-American, 35% white	Assessed via SES*, assessed unwanted contact (5%), coerced intercourse (8%), attempted rape (7%) and rape (80%) 31% victims had been drinking. Mean age at offence 21.49 years. 64% history of CSA, Time since offence not specified	RAQ* behavioural and characterological self-blame scales (1-5)	Pre-assault drinking measured	PTSD symptoms via PDS*	Linear regression	More CSB but not BSB was related to more PTSD. BSB did not mediate effect of drinking on PTSD, but CSB did mediate this relationship,
16	Reich, Jones, Woodward, Blackwell, Lindsey & Beck (2015) Does self-blame moderate psychological adjustment following intimate partner violence?	To consider the role of self-blame in different forms of IPV on PTSD symptoms	45 females	Sexual Abuse Victims Total was 79 females, however only sexual abuse sample focused on. Recruited via churches, advocacy centres and campus'. Mean age 36.1 years. US	Sexual Coercion subscale from CTS-2* to measure abuse- 11.4% still lived with abuser. Mean of 3.58 years had passed between separation and study if separated	Measured by PTCI* Self Blame subscale (1-5)	Abuse types measured	Intimate partner violence related PTSD assessed with CAPS* (0-4) Self-esteem also measured	Regression	Self-blame significantly predicted low self-esteem for sexual abuse. No interaction between sexual abuse and self-blame.
17	Sigurvinsdottir & Ullman (2015) Social Reactions, Self-Blame, and Problem Drinking in Adult Sexual Assault Survivors	To consider the relationship between social reactions, self-blame and problem drinking following sexual assault.	1863 females	Sexual Assault Victims From a midwestern city, recruited from weekly adverts in local newspapers on Craigslist and through university mass email. Age ranged from 18-78, mean 36.51 years. 45% African-American, 35% White 32% married or cohabiting.	Modified version of SES* to identify rape (80%), attempted rape (7%), unwanted contact (4%) and coercion (8%) 29.58% reported assault occurring in last 5 years, mean time was 14.9 years.	RAQ*, two subscales for CSB and BSB used (1-5)	Social reactions measured with SRQ*	Problem drinking measured by MAST*	Correlations and multiple regression	BSB and CSB both positively correlated with problem drinking, Negative indirect effect from emotional support to problem drinking through CSB. Indirect positive effect from blame to problem drinking through CSB. Indirect positive effect from control to problem drinking through CSB, Indirect positive effect from distracting reactions to problem drinking through CSB.

NO.	Author(s) (year) Title	Aim of the study	Sample Size	Sample Characteristics	Measure/any other details	How were blame attributions measured?	Were there any other factors measured?	What trauma outcomes were measured?	Analysis used	Was blame associated with outcome?
18	Starzynski, Ullman, Townsend, Long & Long (2007) What factors predict women's disclosure of sexual assault to mental health professionals?	To consider the factors that influence whether a sexual assault victim discloses their assault to mental health professionals	1084 females	Sexual Assault Victims From Chicago and surrounding area, recruited via newspapers fliers and adverts 46.2% African-American, 37.1% white. Most women heterosexual (78%).	Modified version of SES* to identify rape, attempted rape, unwanted contact and coercion 79.6% women assaulted by known person 20.4% by strangers. Average age of 19.22 years, and 71.4% experienced completed rape	RAQ*, two subscales for CSB and BSB used (1-5)	Avoidance coping strategies measured with Brief COPE*, present control over recovery process measured via Frazier (2003) perceived control items, social reactions measured with SRQ*	Depressive symptoms measured with CES-D 10*, PTSD symptoms measured with PDS*, and MAST* used to measure drinking problems	Chi square, logistic regression	Low behavioural self-blame related to mental health professional disclosure. CSB was unrelated to disclosure to mental health professionals. When BSB placed into regression, was not predictive of disclosure.
19	Starzynski, Ullman, Filipas & Townsend (2005). Correlates of Women's Sexual Assault Disclosure to Informal and Formal Support Sources.	To consider factors that may influence whether someone discloses to formal or informal support sources	1084 females	Sexual Assault Victims From Chicago and surrounding area, recruited via newspapers fliers and adverts 46.2% African-American, 27.1% Caucasian. Average age of 32.47 years. Most women heterosexual (78%) and 27% married.	Modified version of SES* to identify rape, attempted rape, unwanted contact and coercion 79.6% women assaulted by known person 20.4% by strangers. Average age of 19.22 years, and 71.4% experienced completed rape	RAQ*, two subscales for CSB and BSB used (1-5)	Avoidance coping strategies measured with Brief COPE*, present control over recovery process measured via Frazier (2003) perceived control items, social reactions measured with SRQ*	Assault-Specific Social Support Measures regarding whether they had told anyone about assault, Depression was measured by the CESD-10*,PTSD symptom severity was assessed using the PDS*	Chi square, t-test, logistic regressions	Behavioral self-blame was greater for women disclosing to informal sources only Degree of victim behavioral self-blame were both significantly predictive of type of support source told- For each unit increase in behavioral self-blame, women were .939 times less likely to disclose to both formal and informal support sources. CSB non-significant
20	Ullman, Filipas, Townsend & Starzynski (2006). Correlates of comorbid PTSD and drinking problems among sexual assault survivors.	To identify pre-assault, assault, and post-assault factors differentiating survivors with PTSD only from those with PTSD and drinking problems	505 females	Sexual Assault Victims PTSD only (N = 279) compared to those with comorbid PTSD and drinking problems (N = 226). 18–68 years old (M = 30.1, S.D. = 10.1), mostly African-American (40.9%) or White (39.7%).	Modified SES* Women's adult sexual assaults were mostly by known men (82%)	CSB scale from RAQ* used (1-5)	Social support, average frequency of receiving positive and negative social reactions to assault disclosures	Past-month avoidance coping assessed by Brief COPE* and PTSD symptoms assessed by PDS*. Drinking measures: 5-item tension reduction subscale from AEFQ*, drinking to cope with negative affect 5-item scale, and MAST*	Logistic regression	Self-blame predicted comorbid PTSD and drinking problems

NO.	Author(s) (year) Title	Aim of the study	Sample Size	Sample Characteristics	Measure/any other details	How were blame attributions measured?	Were there any other factors measured?	What trauma outcomes were measured?	Analysis used	Was blame associated with outcome?
21	Ullman, Filipas, Townsend & Starzynski (2007) Psychosocial correlates of PTSD symptom severity in sexual assault survivors.	To consider how psychosocial factors influence PTSD symptoms	699 females	Sexual Assault Victims Fliers and adverts distrusted over Chicago for a year in various locations, women recruited for mail survey. 88.7% were unmarried 46,2% African-American, 37.1% white. Average of 32.5 years old	Modified version of SES* used to measure sexual experiences. Included all forms of sexual victimisation, e.g. rape, attempted rape, coercion, or unwanted contact. 71.4% were completed rapes. 54,5% had child sex abuse history. Average assault age was 19.22 years, 45% by acquaintances and 20% by strangers	RAQ*, two scales for CSB and BSB used.	Lifetime histories measured with SLESQ*, social support measured via SAQ*, disclosure of assault measured, perceived control over recovery measured and avoidance coping measured via Brief COPE*	SRQ* provided to those who said they had disclosed their assault, PTSD symptoms measured by PDS*.	Correlations and regressions	CSB and negative social reactions related to more severe PTSD symptoms. BSB was non-significant in this.
22	Ullman (1996) Social reactions, coping strategies, and self-blame attributions in adjustment to sexual assault.	To consider the relationship between coping strategies and blame attributions and other mediators on social reactions	155 females	Sexual Assault Victims Recruited via several methods e.g. newspaper adverts, posters in various locations. First contact via telephone. All form Los Angeles county. 13.1% married, 62% single. Average of 29 years of age. 81% of women were Caucasian.	Life-time sexual-assault history measured via question from Los Angeles Epidemiological Catchment Area study. Then asked about characteristics of assault. Average of 20 years at sexual assault (range 16-48). Average of 9.7 years ago, 87% assaulted by someone they knew, 13% by a stranger.	Single question adapted from past researchers, how much do you attribute … for experience: 6 sources of blame. (0-3). Only the two self-blame items used in analysis (BSB and CSB)	Coping strategies via a checklist, post-assault measures	Social reactions, checklist of 40 items constructed after reviewing literature, and measures of adjustment-how recovered do you feel? (4-point scale) and scored yes or no to 15 symptoms.	Correlations, regressions	Neither CSB or BSB mediated the association of social reactions with self-rated recovery or psychological symptoms. Self-blame did not impact on psychological symptoms, but negative reactions influenced CSB and negative reactions influences symptoms and self-reported recovery,

NO.	*Author(s) (year) Title*	*Aim of the study*	*Sample Size*	*Sample Characteristics*	*Measure/any other details*	*How were blame attributions measured?*	*Were there any other factors measured?*	*What trauma outcomes were measured?*	*Analysis used*	*Was blame associated with outcome?*
23	Ullman & Najdowski (2011) Prospective Changes in Attributions of Self-Blame and Social Reactions to Women's Disclosures of Adult Sexual Assault	To consider the impacts of disclosure on blame on social reactions and revictimization	555 females	Sexual Assault Victims Large sample, 2 data collections, self-report mail surveys sent after responding to advert in Chicago area Mean age was 33 years, 75% heterosexual, 28% married or cohabitating 57% single. 38% white, 45% African-American	SES* used at time 1- only those who experiences rape (76%), attempted rape (10%) or sexual coercion (10%) included. 35% reported drinking or using drugs at time og assault. Average of 21 at time of assault. Assault occurred average of 13 years ago.	RAQ*- behavioural and characterological self-blame subscales	Coping via Brief COPE*, 28 item scale of coping strategies	Social reactions using SRQ, Questionnaire PTSD on PDS*	Structural equation modelling	Neither CSB or BSB were related to negative social reactions, Greater CSB predicted receipt of fewer positive reactions. In turn, negative reaction led to greater CSB. Neither CSB nor BSB predicted revictimisation.
24	Ullman, Townsend, Filipas & Starzynski (2007) Structural models of the relations of assault severity, social support, avoidance coping, self-blame, and PTSD among sexual assault survivors	To test two models to consider the role of social support on trauma outcomes	636 females	Sexual Assault Victims Large sample, recruited via flyers, adverts and notices over 1 year in Chicago Age ranged from 18-71 years, mean 32.3 years. 42% white, 40% African-American. 75% heterosexual. 58% single and not living with partner.	Assault characteristics measured by Modified version of the SES* used to identify rape and attempted rape Assaults occurred average of 12.67 years previous. 20.3% stranger rapes	RAQ*, 2 subscales of behavioural and characterological blame, as well as Brief COPE sub-scale for self-blame	Global social support measures based on SAQ*, assault specific social reactions measured by SRQ*, Avoidance coping measured by 3 subscales of Brief COPE*, traumatic life experiences measured by SLESQ	PTSD symptoms on PDS*, Social reactions assessed	Structural equation modelling	The relationship between self-blame and PTSD symptoms was non-significant. Higher negative social reactions associated with more self-blame and more PTSD. Higher degrees of assault associated with less self-blame and more PTSD symptoms.

* **Abbreviations are as follows:**

AEFQ: *Alcohol Effects Questionnaire*
BDI: *Beck's Depression Inventory*
Brief COPE: *Brief Coping Orientation to Problems Experienced*
BSI: *Brief Symptom Inventory*
CAPS: *Clinical Administered PTSD Scale*
CES-D-7: *Centre for Epidemiologic Studies Depression Scale 7*
CSI: *Coping Strategies Inventory*
CTS-2: *Conflict Tactics Scale Revised*
DASS: *Depression Anxiety Stress Scales*
MAST: *Michigan Alcoholism Screening Test*
MCQ: M*emory Characteristics Questionnaire*
MHI-18: *Mental Health Inventory 18*
PCL-5: *PTSD Checklist for DSM-5*
PDS: *Posttraumatic Diagnostic Scale*
PERI-D: *Psychiatric Epidemiology Research Interview: Demoralisation*
PTCI: *Posttraumatic Cognitions Inventory*
RAQ: *Rape Attribution Questionnaire*
SANE: *Sexual Assault Nurse Examiner*
SAQ: *Social Activities Questionnaire*
SARS: *Sexual Assault Resource Service*
SAS: *Social Adjustment Scale*
SCL-90-R: *Symptom Checklist 90 Revised*
SCS-SF: *Self-Compassion Scale- Short Form*
SES-SFV: *Sexual Experiences Survey- Short Form Victim*
SES: *Sexual Experiences Survey*
SLESQ: *Stressful Life Events Screening Questionnaire*
SRQ: *Social Reactions Questionnaire*
SVAM: *Sexual Victimisation Attributions Measure*
(Please consult studies using the scales for original scale references)

** = *Original papers will be referenced throughout as corrective papers only provide paragraph of corrections. These have been consulted to ensure accuracy in the current review.*

Population

Some population factors could be quantitatively synthesised. Sample sizes ranged from 36 (Hill & Zautra, 1989) to 1863 (Sigurvinsdottir & Ullman, 2015), with six out of twenty-four studies having fewer than 100 participants. Some studies conducted by the same researchers utilised the same sample. With this in mind, the total sample size across all relevant studies was 10,455 (*M*=475.28, *SD*=448.31). Ages ranged from 16 (Frazier, 1990; Frazier, 2003) to 78 years (Sigurvinsdottir & Ullman, 2015); reflecting the inclusion criteria. However, no sample age range was provided in Starzynski et al. (2005) or Starzynski et al. (2007). The mean age of samples varied, ranging from 19.01 years (Littleton & Breitkopf, 2006) to 38 years (Koss, Figueredo & Prince, 2002). A mean age was not provided in Starzynski et al. (2005); however, this study used the same sample as Starzynksi et al. (2007) in which the mean age was noted to be 32.47 years. The total mean age across samples was 29.99 years (*SD*=5.5). All samples were females who had experienced sexual trauma; ranging from sexual coercion to completed rape. One study considered sexual abuse solely in the context of Intimate Partner Violence (Reich et al., 2015), whilst all other studies covered a range of victimisation-types including: stranger assault, acquaintance assault, familial assaults and partner assaults.

All identified studies were undertaken in the United States, suggesting that American researchers have dominated this topic area. However, whilst samples did not specifically focus on minority populations (meeting inclusion criteria), the ethnic distribution within studies varied. Branscombe et al. (2003) and Breitenbecher, (2006) had the largest white/Caucasian representation (90%) Harris et al. (2010) had the largest African-American population percentage (59%). Many of the samples with larger proportions of African-American females took place in Chicago. According to national statistics, Chicago has a higher proportion of White/Caucasian individuals than is reflected in these studies,

suggesting that the researchers may have focused on African-American ethnicities and that findings may not be entirely generalisable to the whole Chicago population. Alternatively, the statistics could provide insight into those most victimised in the area, or those most likely to participate in research.

There were differences across studies concerning recruitment. Most studies (*N*=17) recruited participants from the community. As numbered in Table 2 above, this included the studies numbered 1, 2, 5-7, 9, 12-17, and 20-24. However, two studies recruited participants from clinical populations seeking therapeutic support (Frazier, 1990; Frazier, 2003) and five studies recruited from both populations (Hill & Zautra, 1989; Koss & Figueredo, 2004a; Koss & Figueredo, 2004b; Starzynski et al., 2005; Starzynski et al., 2007).

Intervening Variable: Self-blame Measures

There were some differences in how blame attributions were conceptualised and measured. Most studies (*N*= 17, numbered 4-7, 9-11, 13-15, 17-21, 23-24 in Table 2) used the Rape Attribution Questionnaire (RAQ; Frazier, 2003) to measure blame attributions, with studies often focusing on the Behavioural Self-Blame (BSB) and Characterological Self-Blame (CSB) subscales. The subscales in general have had good alpha coefficients reported (α=.77 to .89). Najdowski and Ullman (2009) also utilised the Brief Coping Orientation to Problems Experienced scale (Brief COPE; Carver et al., 1989) and computed a single self-blame variable by combining all scales. Other scales utilised include the Meyer and Taylor scale (Meyer & Taylor, 1986) for BSB and CSB, which was used by Littleton and Breitkopf, (2006). Prior research has indicated adequate reliability for the subscales; (α=.79 and .64 respectively; Meyer & Taylor, 1986). However, reliability details for Littleton and Breitkopf (2006) were not provided. Alternatively, Reich et al. (2015) used the Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999) self-blame subscale; with good reliability identified (α=.81). Finally, four studies developed their own scales or questions to assess

blame attributions (Branscombe et al., 2003; Frazier, 1990; Hill & Zautra, 1989; Ullman, 1996).

Outcome measures

'*Outcomes'* encompassed a range of measures. Following an initial review of the measures, the author identified three distinct themes, including measures relating to wellbeing, cognition, and social outcomes. Different scales and measures were used within each subtype.

Wellbeing Outcomes

Various scales were used to measure wellbeing following sexual trauma. Fourteen studies measured PTSD symptomology; however, different scales were used to do this. Twelve studies used the Posttraumatic Stress Diagnostic Scale (PDS; Foa, 1995). As numbered within Table 2, the PDS was used by the studies numbered 7, 9-11, 13-15, 18-21 and 23-24. The PDS is a standardised 17-item self-report instrument used to assess the number of symptoms a victim is experiencing. This scale has been validated with sexual assault survivors (Foa et al., 1997). The scale is reported to have a good internal consistency (α=.92). Alternatively, Hamrick and Owens (2018) utilised the PTSD Checklist for the DSM-IV (PCL-5; Weathers et al., 2013), a 20-item self-report measure used to assess PTSD symptoms over the last month; reflecting criteria from the DSM-5. Hamrick and Owens (2018) reported good reliability for the scale (α=.95), mirroring other research (Maheux & Price, 2015). Finally, Reich et al., (2015) used the Clinical Administered PTSD Scale (CAPS; Blake et al., 1990); a 17-item structured interview that mirrors criteria for PTSD in the DSM-IV. Previous research has established good reliability for the scale, ranging from α=.87 to α=.94. This demonstrates how all measures achieved good levels of reliability.

Some researchers measured broader measures of ‘distress’. For example, Brietenbecher (2006) used the Symptom Checklist revised (SCL-90-R; Derogatis, 1994). The SCL-90-R encompasses scales that measure somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism in addition to a Global Severity Index (GSI). Despite covering a large number of subscales, Brietenbecher (2006) only utilised the GSI scores in analysis. Another similar scale utilised to measure psychological distress in other studies was the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). This was used by Frasier (2003), Koss et al. (2002), Koss and Figueredo (2004a), and Koss and Figueredo (2004b). Similarly, the inventory consists of various subscales. Frasier (2003) only used the Depression, Anxiety and Hostility subscales; suggesting these to be the most relevant and also to reduce burden on victims. Reliability of the scales was measured as α=.88; α=.86 and α=.75 respectively; however, due to being strongly correlated, the scales were combined to create one distress scale with Cronbach alpha’s ranging from .89 to .94 across times periods. The other authors used all subscales. Cronbach’s α for the subscales ranged from .61 to .90 in both studies. Grahams et al., (2019) used the Mental Health Inventory 18 (MHI-18; Veit & Ware, 1983) to assess mental health. This 18-item scale has two subscales looking at psychological distress and psychological wellbeing. Higher scores demonstrate more positive mental health; however, the distress subscale was reverse coded so higher scores signified more psychological distress. The MHI-18 has good reliability, with Graham’s et al.’s (2019) finding the value of Cronbach’s alpha for the scale was α=.93, and the distress and wellbeing subscales to have values of α=.92 and α=.81 respectively. Finally, Hill and Zautra (1989) utilised the Demoralisation composite from the Psychiatric Epidemiology Research Interview (PERI; Dohrenwend et al., 1980) to assess psychological distress. This is a 27-item measure often used in epidemiological research to assess generalised psychological distress in the past

month (Shrout et al., 1986); with internal consistency typically reported above .9 (Dohrenwend et al. 1980).

Rather than using broader measures of psychopathology and distress, four studies focused specifically on depression. However, different measures were used. Branscombe et al. (2003) issued a 21-item self-report depression scale (1967) to assess levels of depression. This scale consists of various symptoms in which participants respond on a *0-(do not feel)* to *6-(feel very much)* scale. Reliability of the scale was reported as α=.83. Similarly, Frazier (1990) used the Beck Depression Inventory (Beck et al., 1961); a 21-item scale to measure depressive symptoms. Whilst similar in terms of symptoms statements, participants respond by selecting one of four statements for each item. Prior research has demonstrated that the BDI has good internal consistency (α=.82 to .91). An alternate measure of depression was used by Hamrick and Owens (2018), who used the depression subscale from the Depression Anxiety Stress Scales-21 (DASS21; Lovibond & Lovibond, 1995) consisting of 7 items. Items are rated on a 4-point Likert scale, and good internal consistency has been reported for the scale in both previous research (α=.91, Lovibond & Lovibons, 1995) and the present study (α=.91). Finally, both Starzynski et al. (2005) and Starzynski et al. (2007) used the Centre for Epidemiologic Studies Short Depression Scale (CES-D 10; Andresen et al., 1994), which is a shorter version of the Centre of Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). This scale includes 10 items that are rated on a 4-point Likert scale to indicate symptoms during the last week. In the study, reliability was provided for the CES-D (α=.85 for the general population and α=.90 for patients), however, no details were reported for the shorter version of the scale. Harris et al. (2020) used the 7-item version of the same scale, modified by Mirowsky and Ross (1990). Good reliability was demonstrated for the scale (α=.84).

In addition to depression, self-esteem was also specifically measured as an outcome by two researchers. Branscombe et al. (2003) administered a 20-item scale on self-esteem, where participants would respond to each item on a 7-point scale from *Not as all like me*-(1) to *Very much like me*-(7), with higher numbers indicating more positive self-esteem. Reliability was reported as good for the scale (α=.93). Conversely, Reich et al. (2015) used the Rosenberg Self-Esteem scale (RSE; Rosenberg, 1979); a 10-item self-report measure of self-esteem where participants rated statements on a 4-point scale. Good internal consistency has been reported for the scale (α=.77 to .88; Blascovich & Tomaka, 1993), with the study also indicating good reliability for the measure (α=.92).

Three studies considered an outcome measure of alcoholism. Sigurvinsdottir and Ullman (2015), Starzynski et al. (2007) and Ullman et al. (2006) utilised the Michigan Alcoholism Screening Test (MAST; Selzer, 1971) to assess problem drinking; a 25-item self-report measure. Sigurvinsdottir and Ullman (2015) reported good reliability for the measure (α=.80); however, neither Starzynski et al. (2007) nor Ullman et al., (2006) reported any reliability details. The studies coded the number of alcohol problems in the last year as a continuous measure; however, Starzynski et al. (2007) also dichotomised the measure to differentiate between those with and without a drinking problem. Ullman et al. (2006) additionally included a 5-item tension reduction subscale from the Alcohol Effects Questionnaire (AEFQ; Rohsenow, 1983) and a drinking to cope with negative affect 5-item scale (Cooper et al., 1995) to assess drinking problems as a means to cope.

A final wellbeing outcome measure was that of "reexperiencing memory". Koss et al. (2002) utilised the Memory Characteristics Questionnaire (MCQ; Suengas & Johnson, 1988) to assess memory characteristics, with one subscale consisting of 8-items specifically for assessing the participants' reexperiencing of the physical sensations, emotions, and thoughts that characterized the original event during voluntary recall. This scale differed from

involuntary memory intrusion as it involved having control over remembering. Koss et al. (2002) reported good reliability for the subscale (α=.80).

Cognitive Outcomes

Cognitive measures were most often utilised as mediators between blame attributions and outcomes, however, some researchers considered cognitive measures as outcomes. Littleton and Breitkopf (2006) and Najdowski and Ullman (2009) considered coping strategy measures. Littleton and Breitkopf (2006) utilised the Coping Strategies Inventory (Tobin et al., 1989) to assess engagement and disengagement coping styles; synonymous with approach and avoidance coping respectively. Whilst they administered the whole scale, only the scores on the disengagement items were examined in their paper. The items are assessed on a 5-point Likert scale. Good reliability has been previously found for the scale (α=.95; Tobin et al., 1989) and similar levels were replicated in the present study (α=.92). Najdowski and Ullman (2009) measured coping strategies via a composite measure of maladaptive coping using the Brief COPE (Carver et al., 1989). The measure showed adequate reliability (α=.77). Ullman et al. (2006) also utilised the Brief COPE; focusing on avoidance coping within the past month.

In addition to coping strategies, self-rated recovery was also considered as an outcome measure by both Najdowski and Ullman (2009) and Ullman (1996). Ullman (1996) asked a single question to participants regarding how much they felt they had recovered from their sexual trauma, from 1-*(Not at all)* to 4-*(Completely recovered).* Najdowski and Ullman (2009) followed Ullman (1996)'s procedure; using the same question to assess self-rated recovery.

Maladaptive beliefs were also measured as an outcome in three studies. Koss et al. (2002), Koss and Figueredo (2004a) and Koss and Figueredo (2004b) all utilised the McPearl

Belief Scale (Pearlman et al., 1990), a written measure to assess beliefs. The scale consists of 80-items and 10 subscales. Items consist of maladaptive statements, which are assessed on a 6-point Likert scale ranging from 1 *(Disagree Strongly)* to 6 *(Agree Strongly).* Reliability for the subscales ranged from α=.55 to .88.

Branscombe et al. (2003) measured perceived control as an outcome measure, assessed on a Likert scale from 1 (*no control*) to 7 *(complete control*) in relation to current perception. Similarly, Brietenbacher (2006) assessed perceptions of future avoid-ability on a Likert scale; asking participants if they feel the experience could be avoided in the future from 1 (*not at all)* to 5 (*completely*).

Social Outcomes

Both social adjustment and social reactions were considered as outcome measures, as well as sexual assault disclosure. With regards to social adjustment, the Social Adjustment Scale (SAS; Weissman & Bothwell, 1976) was used by Koss et al. (2002), Koss and Figueredo (2004a) and Koss and Figueredo (2004b). This scale is a 53-item questionnaire measuring social functioning in a range of areas including school, work, leisure and family situations. It has been recorded as having reliability of .53 to .69.

Social reactions were initially considered by Ullman (1996); who constructed a 40-item social reactions checklist of positive and negative reactions after reviewing this topic in the literature. The positive and negative reactions were split into ten categories, comprising a different number of items. Only eight categories were described. Good alpha coefficients were found for the categories of blame, aid, emotional support, being treated differently and distraction (ranging from .65 to .78). Low alphas were found for the categories of belief, having someone take control and listening (ranging from .43 and .57). Following this study, the Social Reactions Questionnaire (SRQ; Ullman, 2000) was developed and used by

Starzybnski et al. (2005); Ullman et al (2007) and Ullman and Najdowski (2011). This questionnaire asks how often they have received forty-eight different reactions from others regarding the assault and was only administered to people who disclosed assault. No reliability statistics were provided for the questionnaire.

Finally, both Starzynski et al. (2005) and Starzynski et al. (2007) measured disclosure. Starzynski et al. (2005) assessed disclosure to both informal (family/friends/partners) and formal (doctors/police/mental health professionals/crisis centres) support sources, assessed dichotomously via yes/no questioning. Starzynski et al. (2007) focused on disclosure to mental health professionals as an outcome; also assessed dichotomously.

Prospective vs. Retrospective

Differences with regards to data collection could be identified across studies. With both case control and cohort studies being appropriate for this systematic literature review, data could be either prospective or retrospective in nature. It was most likely for studies to be retrospective, with participants being assessed on a previous sexually traumatic experience and their blame attributions for this event. However, some studies adopted a prospective nature, following samples of women who had been sexually traumatised and assessing how blame attributions and outcomes change overtime. This method can be considered more accurate than retrospective. In total, seven studies were prospective (Frazier, 2003; Harris et al., 2020; Koss & Figueredo, 2004a; Koss & Figueredo, 2004b; Peter-Hagene & Ullman, 2014; Peter-Hagene & Ullman, 2018; Ullman & Najdowski, 2011) and the seventeen remaining studies were retrospective.

Key Findings: The Relationship between Blame Attributions and Trauma Outcomes

The findings have been separated into the different outcome areas (wellbeing, cognitive and social outcomes). Whether self-blame is treated as one measure or split into Behavioural Self-Blame (BSB) and Characterological Self-Blame (CSB) is considered.

Wellbeing Outcomes

PTSD. Nine studies directly measured the relationship between blame attributions and PTSD, with some studies also considering mediators on this relationship.

Najdowski and Ullman (2009) computed a self-blame variable by combining the two RAQ subscales and the Brief COPE subscale. Initial correlations indicated that self-blame was positively correlated with PTSD symptoms (r=.29, p<.001), meaning that as self-blame increased, PTSD symptoms increased. Using path analysis, self-blame was seen to have a direct positive effect on PTSD symptoms (β=.13), meaning it significantly predicted PTSD symptoms. Mediators were also considered, with the effect of self-blame on PTSD seen to be partially mediated by using maladaptive and adaptive coping strategies.

Ullman et al. (2006) considered PTSD with comorbid drinking problems, finding that greater self-blame related to this comorbidity (β=.31, p=.045).

In contrast, in a structural equation model, Koss and Figueredo (2004b) found the slope of external blame had a direct effect on the slope of PTSD symptoms (β=.28, p<.05), showing that PTSD and external blame were positively associated. This may be seen to contradict the notion that self-blame increases PTSD symptoms, as it suggests that external blame is associated with more PTSD symptoms. The sample was relatively small (n=59) for performing structural equation modelling (Boomsma & Hoogland, 2001), with recommendations of a least 100 cases being acceptable; thus, this may have impacted on the validity of results.

Harris et al. (2020) focused on CSB and found it positively correlated with PTSD (r=.29, p<.01). Within their hierarchical backward regression reduced model looking at predictors of PTSD in multiple perpetrator sexual assault, CSB was seen to predict PTSD at a p value of <.10; (B=1.33, β=.10, SE=.72, p<.10), with higher CSB being considered to relate to higher PTSD scores.

On consideration of blame attributions as mediators, Peter-Hagene and Ullman (2014) explored whether self-blame mediated the effect of the difference between alcohol-related assaults and moderate-severity assaults on PTSD after one year. They found CSB to be positively related to PTSD symptoms (B=2.39, t(10,484)= 3.91, p<.001) and that the indirect effect was significant, indicated by bootstrap confidence intervals (i.e. the intervals did not include 0); 95% CI [-1.34, -.06]. No significant effects were found for BSB. Similarly, using mediation analysis with Monte Carlo simulations, Peter-Hagene and Ullman (2018) explored whether self-blame mediated the relationship between alcohol consumption at the time of the assault and PTSD. CSB was seen to positively relate to PTSD (B=4.90, β=.38, SE=.33, p<.001) and the indirect effect was seen to be significant, 95% CI = [0.20, 1.18]. No such effects were seen for BSB.

Further, Hamrick and Owens (2018) explored the mediating role of BSB and CSB on the relationship between self-compassion and PTSD. CSB was positively related to PTSD (B=0.359, β=-.152, SE=0.091) with significant indirect effects observed on the relationship between self-compassion and PTSD, 95% CI [-0.565, -0.204]. This was also observed for BSB: (B=0.152, β=-.065, SE=0.077), 95% CI [-0.323, -0.021].

During correlational analyses, Reich et al. (2015) found self-blame to positively correlate with PTSD (r=.30, p= <.01). However, when considering self-blame's predictive value in regression analyses, no significant relationships between self-blame and PTSD were observed.

Similarly, Ullman, Townsend et al. (2007) found the predictive value of self-blame on PTSD symptoms to be non-significant in their two structural equation models. They indicate that previous findings supporting this relationship may have been partially due to negative social reactions, which they accounted for in their model.

The results generally indicate that self-blame as one concept is related to an increase in PTSD symptoms, however, other variables may impact on this relationship. The findings also indicate that this relationship may be stronger for CSB compared to BSB. Theoretical reasons for these findings will be discussed below.

Distress. Different measures were used to consider distress; with some researchers using symptom-related scales, and other researchers combining some of the individual outcome measures (described previously) into one broader outcome measure of psychological distress/wellbeing.

Branscombe et al. (2003) combined measures of depression, self-esteem and current perceived control to create a psychological wellbeing outcome measure and assessed self-blame as a single measure. They found self-blame to negatively predict psychological well-being (β=-.41, p<.05). Additionally, they also found societal blame (e.g., blame on a patriarchal society) to have a significant negative impact on well-being (β=-.25 p<.05). Rapist blame was not observed to influence wellbeing outcomes.

Koss et al. (2002) computed a single 'Global Distress' variable, made from scales assessing PTSD, psychopathology, social maladjustment and physical symptoms. Self-blame was considered in relation to BSB and CSB. In their structural equation model, both BSB (β=-.17, p<.05) and CSB (β=.30, p<.05) were found to have direct predictive effects on Global Distress. A minus sign (-) depicted protective effects.

Grahams et al. (2019) utilised the MHI-18 as a measure of mental health and found CSB negatively correlated with overall mental health (r=-.432, p <.001), such that as CSB increased, mental health decreased. Concerning the MHI-18 subscales; CSB positively correlated with distress (r= .434, p <.001), showing that as CSB increased distress also increased, and negatively correlated with wellbeing (r=-.323, p<.001). Similar patterns were found for BSB, correlating negatively with overall mental health (r=-.305, p<.001) and wellbeing (r=-.226, p<.001), and correlating positively with distress (r=.308, p<.001). Within the regression models, CSB predicted overall mental health (β=-.329, p<.01), wellbeing (β=-.230, p<.01) and distress (β=.336, p<.01). BSB was only found to predict overall mental health (β=-.114, p<.05) and not the subscales.

Both Koss and Figueredo (2004b) and Koss and Figueredo (2004a) computed a psychological distress measure by combining scales of PTSD, BSI and social maladjustment. In their structural equation model, intercepts reflected the initial participant scores, and slopes reflected the direction of changes overtime. Contrary to other findings, neither study found that BSB, CSB or External blame predicted psychological distress at either the intercepts or slopes. Koss and Figueredo (2004a) concluded that the relationship was non-significant due to accounting for maladaptive beliefs, which fully mediated the relationship. Koss and Figueredo (2004b) found that initial distress after the assault was predictive of BSB decreasing overtime and external blame increasing overtime, rather than the blame measures predicting levels of distress.

Rather than computing a measure, Breitenbecher (2006) utilised the Global Severity Index from the SCL-90-R, which is the average score for all items and serves as an overall measure for psychological distress (whereby higher scores indicate higher distress). They found a significant positive correlation between CSB and distress (r=.29, p<.05). Additionally, a significant negative correlation was also found between societal blame and

distress (r=-.15, p<.05), meaning as blame on society increased, distress decreased. No significant relationship was observed between BSB and distress. When entering CSB and external blame into a regression model to explore causality, only CSB was found to significantly contribute to levels of psychological distress (B=.03, β=.38, SE=.01, p<.01).

Alternately, Frazier (2003) found in a longitudinal study that BSB was associated with more distress (measured by the BSI) at all four times over a period of one year (r=.30, .32, .49, .41; p<.001). Further, blaming the rapist was also associated with more distress at all four times (r=.22, .27, .39, .33; p<.05). Decreases in distress overtime were found to be associated with decreases in both BSB and rapist blame. CSB was not acknowledged in this study due to being considered static in nature (e.g., a measure of one's static character and traits); the focus on the study was on dynamic measures, with BSB being treated as a measure of past control (e.g., measuring one's past behaviours).

Hill and Zautra (1989) found CSB to account for much of the variance in their measure of psychological distress (F(1, 34)=15.7, p<.001). BSB did not add to the variance accounted for by CSB, and the perceived ability to change self-blame was not found to be associated with psychological distress.

Overall, these findings indicate that self-blame is related to increased levels of psychological distress, with the effects of CSB on psychological distress being stronger and more predictive. Further, the findings indicate that BSB may be more adaptable overtime in relation to distress.

Depression and Self Esteem. When considering self-blame as a single measure, Branscombe et al. (2003) found that self-blame significantly positively correlated with depressions scores (r=.36, p<.05) and negatively with self-esteem scores (r=-.27, p<.05.) Additionally, Reich et al. (2015) found self-blame negatively correlated with self-esteem (r=-

.41, $p<.01$) and found self-blame to be a significant predictor of low self-esteem (β=-.37, $p<.001$) in regression analysis. Frazier (1990) also computed a single self-blame variable and found the regression of depression scores on the summed self-blame scale was significant; accounting for 35% of the variance in 3-day post rape depression ($p<.05$).

Frazier (1990) considered BSB and CSB in relation to depression scores and found both BSB ($r=.40$, $p<.05$) and CSB ($r=.47$, $p<.01$) to be significantly positively correlated with depression.

Harris et al. (2020) focused on CSB and found that it positively correlated with depression ($r=.25$, $p<.01$). Within a backwards regression model, CSB predicted depression ($B=.10$, β=-.08, SE=.04, $p<.10$).

In terms of mediation, Hamrick and Owens (2018) considered how self-blame can mediate the relationship between self-compassion and depression. They found that CSB mediated this relationship ($B=-0.254$, β=-0.181, SE=0.061, 95% CI [-0.386, -0.148]), demonstrating that as self-compassion decreased, both CSB and depression increased. The same was not found for BSB.

These findings indicate that both CSB and BSB are related to levels of depression and self-esteem, with CSB being more predictive and more significantly related.

Alcohol Use. When considering alcohol abuse as an outcome, Sigurvinsdottir and Ullman (2015) found that both BSB and CSB were significantly positively correlated with problem drinking following the assault ($r=.08$, $p<.05$ and $r=.15$, $p<.001$ respectively). When these variables were considered in a regression model, only CSB was found to be a significant predictor of problem drinking (β=.12, $p<.001$).

When considering CSB as a mediating factor, Sigurvinsdottir and Ullman (2015) found that CSB mediated the relationship between negative social reactions from others and problem drinking (β=.04, p<.001, 95% CI [0.14, 0.34]). Further, an indirect effect from positive reactions to problem drinking was found through CSB (β=.01, p=.003, 95% CI [.02, .05]). A second model was also tested by Sigurvinsdottir and Ullman (2015), in which increased emotional support was connected with decreased self-blame and subsequent decreased problem drinking (β=-.07, p<.001, 95% CI [.12, .03]). Further, in this second model, an indirect positive effect was observed from blame to problem drinking through CSB (β=.02, p=.08, 95% CI [.03, .14]); more blame from others related to more CSB and more subsequent drinking. Additionally, in this second model, there was an indirect positive effect from perceived control to problem drinking through CSB (β=.02, p=.02, 95% CI [.02, .16]). Finally, in this second model, an indirect positive effect emerged from distracting reactions to problem drinking through CSB (β=.02, p<.001, 95% CI [.05, .16]).

The findings suggest both BSB and CSB are related with drinking alcohol; however, CSB is more predictive of drinking alcohol and is a significant mediator of the relationship between a range of external factors and problem drinking.

Reexperiencing Memory. Koss et al. (2002) considered Reexperiencing Memory during voluntary recall within their structural equation model and found both CSB (r=.27) and External Blame (r=.17) had direct effects on Reexperiencing Memory (p<.05).

This finding suggests that blaming one's personality/character or external/societal factors can increase the likelihood of reexperiencing physical and emotional sensations from the event when recalling the original event.

Cognitive Outcomes

Coping. The two studies that assessed coping strategies considered self-blame as one single measure. Using path analysis, Najdowski and Ullman, (2009) found that self-blame had a positive direct effect on the use of maladaptive coping strategies (β=.23). Similarly, Littleton and Breitkopf, (2006) found that self-blame was significantly correlated with avoidance coping (r=.56, p<.01). They also found self-blame to predict avoidance coping in their structural path model (β=.45, p<.05). These findings suggest that self-blame influences maladaptive coping.

Self-rated Recovery. Najdowski and Ullman (2009) also considered the effect of self-blame on self-rated recovery using path analysis. Self-blame was negatively related to self-rated recovery (β=-.11, p<.05), meaning that women reported lower levels of recovery as they engaged in more self-blame.

Alternatively, Ullman (1996) considered the mediating role of self-blame types on the relationship between negative social reactions and self-rated recovery. Neither CSB nor BSB were found to mediate this relationship. These self-blame types were also not found to be individually associated with self-rated recovery.

These conflicting findings may reflect the different measures used to assess self-blame. Ullman (1996) only used individual items to assess CSB and BSB, combining these two items to assess self-blame as one construct. The paper by Nadjowski and Ullman (2009), which scored higher in study quality, used the 5-item subscales from the RAQ to assess CSB and BSB, combining them to assess self-blame. This measure is likely to have better construct validity due to the number of items and the process that was undertaken to develop the scale (Frazier, 2003).

Control. Branscombe et al. (2003) considered how blame attributions impact on control and found self-blame as a single measure to be negatively correlated with current perceived control (r=-.34, p<.05). Additionally, rapist blame was also found to be negatively correlated with current perceived control (r=-.26, p<.05)

Breitenbecher (2006) differentiated between blame-types and the effect on perceived future avoid-ability of future assault. The study found a significant correlation between BSB and perceived future avoid-ability (r=.22, p<.05), as well as a significant correlation between situational/chance blame and perceived future avoid-ability (r=.16, p<.05) and societal blame and future avoid-ability (r=.17, p<.05). No significant findings were found in relation to CSB or perpetrator blame and future avoid-ability.

These findings may indicate that higher self-blame is related to lower perceived present control, however, higher BSB is related to higher perceived future control. This may suggest that BSB serves as an adaptive function in increasing perceived control overtime, but not initially post-assault.

Maladaptive beliefs. Maladaptive beliefs refer to an individual's beliefs in areas that may be impacted by trauma, such as safety, trust and control When considering maladaptive beliefs, Koss et al. (2002) found that CSB had a direct and positive effect on maladaptive beliefs (β=.44, p<.05), but BSB and External Blame did not.

This was further considered longitudinally. Koss and Figueredo (2004a) carried out structural equation modelling, in which the intercepts reflect the initial participant scores and slopes reflect the direction of changes overtime. For the intercepts, CSB was found to be the only significant predictor of maladaptive beliefs (β=.39, t(53)=2.1, p=.04). Neither BSB nor External blame predicted maladaptive beliefs. For the slopes, BSB was the only significant predictor of maladaptive beliefs (β=.36, t(53)=2.37, p=.02). Neither CSB nor external

predicted slopes of maladaptive beliefs. Following a similar method, Koss and Figueredo (2004b) found that only the intercept of CSB had a significant positive direct effect on maladaptive beliefs (β=.48, $p<.05$). However, no significant effect of the slopes was found for CSB on maladaptive beliefs.

These findings indicate that CSB has the most significant role in predicting initial maladaptive beliefs, whilst decreasing BSB has an adaptive role in predicting a decline in maladaptive beliefs overtime. Some of the participants were recruited via clinicians/psychotherapists, and so it is unclear whether any ongoing therapy/counselling would have contributed to the decline in maladaptive beliefs overtime.

Social Outcomes

Social Reactions. With regards to social reactions, three studies considered the role of self-blame. Starzynksi et al. (2005) found that BSB positively related to the average frequency of negative social reactions (F,(1,524)=5.06, $p<.05$) whilst CSB did not. Alternatively, Ullman, Filipas et al. (2007) found that CSB was correlated with negative reactions (r=.24, $p<.01$), but not positive reactions. When considering this longitudinally, Ullman and Najdowski (2011) found that initial BSB did not predict later social reactions, however, initial CSB predicted significantly fewer positive reactions later on. In general, CSB predicted the receipt of fewer positive reactions overtime and remained significantly correlated with social reactions at time 2.

The findings suggest that both BSB and CSB may influence negative social reactions. The conflicting findings may indicate that there are different social reactions received from different sources that were not controlled for in analysis, such as informal or formal sources, or males or females, for example.

Disclosure. Grahams et al. (2019) found that both CSB and BSB were individually related to disclosing to and using campus resources post-assault (r=.163, p=.002 and r=.135, p=.01 respectively). Starzynksi et al. (2005) found that BSB was higher when disclosing just to informal sources (M=12.28, SD=5.49) than for both formal and informal sources (M=16.21, SD=5.22, t(2,68), p<.01). BSB was seen to be predictive of the support source in a model exploring all possible predictive variables, whereby for every unit increased in BSB, women were .939 times less likely to disclose to both formal and informal sources. When all significant predictors were added to the model, women were .96 times less likely to disclose to both sources for every unit increased in BSB. CSB did not vary in whether only informal or both sources had been told.

In Chi-Square analysis, Starzynski et al. (2007) found that those with higher BSB were less likely to disclose to a mental health source, ($\chi 2$(1, N=775)=7.487, p=.006). However, CSB was seen to be unrelated to disclosure to a mental health source. When adding BSB to a logistic regression to assess predictors of disclosure to mental health professionals, BSB did not remain significant as a predictor.

These findings indicate that BSB may influence disclosure to difference sources whilst CSB does not.

Discussion

Main findings

The current review aimed to systematically examine previous research exploring the relationship between blame attributions and trauma outcomes. The review had two main objectives:

1) Explore which blame attributions influence different trauma outcomes

The findings from this review supported the notion that there is large variation across studies with regards to how blame attributions are conceptualised. Whilst many of the researchers considered self-blame as two constructs, others treated self-blame as one entity. Further, different measures were used to assess attributions; specifically, some used multi-item scales, combined scales, and individual items. This leads to further differences in their conceptualisations. Overall, blame attributions were seen to be associated with a number of outcomes. The variability in measures and conceptualisations of blame attributions may enable stronger conclusions to be drawn (Campbell & Fiske, 1959).

To summarise the findings, self-blame as one concept was found to be related to an increase in PTSD symptoms, experiences of psychological distress, depression, lower self-esteem, reexperiencing memory, increased maladaptive coping, and decreased perceived control. CSB was found to be related to an increase in PTSD symptoms, higher distress, higher depression, more alcohol use, increased maladaptive beliefs and negative social reactions. BSB was found to be related to increased distress, increased depression, more alcohol use, perceived future avoid-ability of assault, more maladaptive beliefs and disclosure to informal sources. External blame was found to be related to increased PTSD symptoms. Perpetrator blame and societal blame were found to be related to increased distress and

reduced wellbeing respectively. Finally, Situational blame was found to be related to increased perceived present control.

However, there were some discrepant findings that led to contradictory conclusions. Two studies found no significant relationship between self-blame and PTSD symptoms (Reich et al., 2015; Ullman, Townsend et al., 2007). Interestingly, these two studies utilised unique measures to assess self-blame compared to the other studies. Reich et al., (2015) was the only study to use the PTCI self-blame scale (Foa et al., 1999), which does not consider CSB and BSB separately, and consists of fewer items than other scales used. This could limit the construct validity, as well as decrease the reliability of the measure. Additionally, their sample differed to other studies, focusing on victims of intimate-partner violence. Only a small cohort within their sample experienced sexual assault, who were the focus in this review. The small sample may have impacted on the generalisability of findings to other types of victims. Additionally, the relationship with the perpetrator may have impacted outcomes. Previous findings suggest that victims of acquaintance rape tend to report more BSB, but not CSB (Frazier, 2003). Other studies described in this review failed to find a relationship between BSB and PTSD symptoms (Peter-Hagene & Ullman, 2014; Peter-Hagene & Ullman, 2018). This combined may provide an explanation for the non-significant results observed by Reich et al., (2015).

Additionally, Ullman, Townsend et al. (2007) used a unique combined composite measure for self-blame, consisting of the BSB and CSB subscales from the RAQ (Frazier, 2002), and the self-blame scale from the Brief COPE (Carver et al., 1989). This combination of self-blame measures was not utilised by anyone else assessing PTSD outcomes, and may have influenced different outcomes. However, Ullman, Townsend et al., (2007) attributed their different results to their measure of negative social reactions. Self-blame correlated with PTSD at the bivariate level; however, after accounting for social reactions, self-blame no

longer contributed to an increase in PTSD symptoms, highlighting the complexity of the relationship.

An alternate outcome measure was that of distress. Whilst using some different measures, a range of blame attributions were associated with distress, including self-blame as one concept (Branscombe et al., 2003), CSB (Koss et al., 2002; Breitenbecher, 2006; Hill & Zautra, 1989), BSB (Koss et al., 2002; Frazier, 2003), societal blame (Branscombe et al., 2003; Breitenbecher, 2006) and rapist blame (Frazier, 2003).

Alternatively, Branscombe et al. (2003) did not find rapist blame to be associated with distress. Despite using similar measures to Frazier (2003), one of the significant differences between the studies is in relation to their samples. Frazier (2003) utilised a clinical sample, consisting of sexual assault survivors in an emergency room receiving support services. Alternatively, Branscombe et al's (2003) sample consisted of university undergraduates. According to statistics from the National Violence Against Women survey, victims seen in an emergency room are more likely than their counterparts to have been raped by strangers (45% compared to 17%; Tjaden & Thoennes, 2000). Stranger rapes are associated with higher levels of violence (Koss et al., 1988) and violence is associated with higher levels of victim distress (Weaver & Clum, 1995). Further, participants in clinical samples likely experience higher degrees of distress, hence their seeking clinical support. This could explain why Frazier's (2003) sample experienced increased distress when blaming the rapist, compared to Branscombe et al. (2003).

Additionally, Koss and Figueredo (2004a) found neither CSB nor BSB as individual concepts predicted distress. Koss and Figueredo (2004a) found the relationship between self-blame and distress to be fully mediated by maladaptive beliefs. Maladaptive beliefs refer to an individual's beliefs in areas that may be impacted by trauma, such as safety, trust and control. Koss et al. (2002) found CSB to be related to maladaptive beliefs and that these

beliefs accounted for the effects that CSB had on distress, suggesting that the relationship between self-blame and distress may be influenced by other factors.

Further, Koss and Figueredo (2004a) found that whilst CSB predicted the initial frequency of maladaptive beliefs, a decline in BSB predicted the decline of maladaptive beliefs overtime. This could suggest how blaming one's behaviour is more adaptive/dynamic; it can decrease overtime and in doing so can reduce maladaptive beliefs about the event. As the maladaptive beliefs are subsequently associated with distress, targeting and reducing BSB could have potential implications for the treatment of psychological distress.

Depression and self-esteem outcomes were also considered. Both Branscombe et al. (2003) and Frazier (1990) found self-blame as one measure to be associated with increased depression. Frazier (1990) also considered CSB and BSB separately; finding both types to be related to depression. Similarly, Branscombe et al. (2003) and Reich et al. (2015) found self-blame as one measure to be associated with lower self-esteem. This demonstrates the negative implications of self-blame on depression and self-esteem and supports the idea that both self-blame types can be problematic (Koss et al., 2002).

These wellbeing findings indicate that BSB still influences negative outcomes but may be more adaptive than that of CSB. Janoff-Bulman (1979) suggested that BSB is more adaptive than CSB due to the increased perceived control we have over behaviours compared to character traits. On exploration, Branscombe et al. (2003) found self-blame as a single concept to predict levels of perceived control. No studies found CSB to be related to perceived control, however, Breitenbacher (2006) found BSB to be related to perceived future avoid-ability. This could support Janoff-Bulman's (1979) suggestion that BSB is related to control, enabling individuals to select to avoid such behaviours and prevent revictimization occurring in the future. Breitenbacher (2006) also found situational blame to be related to future avoid-ability. A similar explanation could be offered, in that by blaming

the situation it gives individuals the control to avoid such situations and prevent revictimization.

However, Branscombe et al. (2003) also found rapist blame to predict levels of present perceived control. This could be surprising, as to have high perceived control with high levels rapist blame seems almost contradictory. However, it is acknowledged that individuals may assign blame to both the rapist and themselves, rather than one or the other. Furthermore, 87% of the sample knew their assailant; increased perceived control may come from being able to cut the contact with their rapist to prevent future assault.

Alcohol use was also considered as an outcome measure. Sigurvinsdottir and Ullman (2015) found both CSB and BSB to be associated with problem drinking following sexual trauma. Whilst considered a wellbeing measure in this review due to the psychiatric consideration of alcoholism, drinking alcohol could also be considered a maladaptive coping strategy. With this in mind, the findings can be seen to support Najdowski and Ullman (2009) and Littleton and Breitkopf (2006)- who found self-blame be associated with maladaptive coping and avoidance coping respectively. This suggests that in blaming the self for the sexual trauma, victims are more likely to be avoidant and maladaptive in their methods of coping.

Through behavioural avoidance, it could be inferred that victims may be less likely to disclose their trauma to a mental health professional and seek support. Starzynski et al. (2007) found that as BSB decreases, disclosure to professionals increases. In some respects, this could imply that in having lower levels of self-blame, or no self-blame, individuals will be more likely to adopt approach-focused coping styles and thus actively disclose their trauma to professionals, supporting previous findings.

Alternatively, CSB was not found to be related to disclosure to mental health professionals (Starzynski et al. 2007). Interestingly, both Ullman, Filipas et al. (2007) and Ullman and Najdowski (2011) found CSB to be associated with negative reactions post-disclosure, however, BSB was not. It could be expected that victims disclose their traumatic experiences to informal sources, such as friends and family, prior to seeking support from a mental health professional. Thus, if an individual engages in CSB and subsequently receives negative reactions following informal disclosure, this may prevent them from later disclosing to mental health professionals, accounting for Starzynski et al.'s (2007) findings. This may further indicate why few rape victims seek mental health services (Koss et al., 1991). This finding could pose questions regarding the recall of the event by individuals engaging in CSB compared to BSB and how their disclosure influences different social reactions, which could be considered in future research.

A final outcome measure assessed self-rated recovery. This was considered by two studies who found conflicting results. Najdowski and Ullman, (2009) found self-blame to be related to lower levels of self-rated recovery, whilst Ullman (1996) found no such relationship. One key difference in these studies is their methods of measuring self-blame. Ullman (1996) used a single item measure of self-blame, which could be considered less reliable than a multiple-item measure. Najdowski and Ullman (2009) created a composite measure including the CSB and BSB RAQ subscales and the Brief COPE self-blame subscale; thus, having increased reliability and likely higher construct validity. These findings could suggest that it is an element of self-blame that predicts self-rated recovery that was not captured in Ullman's (1996) single measure.

2) Exploring mediators of the relationship between blame attributions and recovery, or the role of blame attributions as a mediator

In the present review, only one paper considered mediators of the relationship between blame attributions and recovery. Najdowski and Ullman (2009) found that the effect of self-blame on PTSD and self-rated recovery was partially mediated by coping strategies. Interestingly, some studies have conceptualised self-blame to be a maladaptive coping strategy following trauma. Matheson et al. (2007) found that prior assaults predicted avoidance coping such as self-blame. This suggests self-blame and coping may not be entirely separate constructs and that researchers have adopted different conceptualisations of self-blame.

Some studies in the present review also considered blame attributions as the mediator. Self-blame was seen to mediate the relationship between: alcohol-related sexual assault and PTSD (Peter-Hagene and Ullman, 2014); self-compassion and depression (Hamrick and Owens, 2018); and blame from others and subsequent alcohol abuse (Sigurvinsdottir and Ullman, 2015). All outcomes here can be associated with wellbeing, indicating that blame attributions are a fundamental component in relation to wellbeing outcomes and thus an important treatment need.

Alternatively, Ullman (1996) considered the mediating role of CSB and BSB on the relationship between negative social reactions and self-reported recovery, finding neither to be related. However, self-reported recovery was assessed via a single item stating: “how recovered do you feel overall from this experience?”, rated on a 4-point scale. This measure may lack reliability, and ‘recovery’ could be interpreted differently by each victim - it lacks clear conceptualisation. This may impact findings and highlights the need for this to be re-explored.

Considerations, Strengths and Weaknesses of the current review

All of the studies in this systematic review were conducted in the United States, limiting the generalisability of findings to other countries. This review intended to focus on westernised populations due to the differences identified around ethnic minority populations and their processes of sexual trauma (Cowburn et al., 2015), however, some populations were more ethnically-diverse which may impact findings. No studies in the present review were conducted in the UK and it is unclear whether the impact of blame attributions may differ in a British sample. There are differences between the UK and US with regards to the prevalence of sexual assault, with England being significantly lower (Carson, 2007). This could potentially have implications for the way victims attribute blame.

There were further differences with regards to studies being either retrospective or prospective. Most studies were retrospective, which can be criticised due to the potential for confounding variables and biases. However, many studies considered confounding variables to minimise potential biases that could impact on the outcome measures. As such, the differences between most retrospective and prospective studies may be minimised due to good measures regarding the assault. This cannot be applied to all studies, as indicated in *Table 2*.

As well as these considerations, there are some limitations of the present review. One weakness as aforementioned, due to time constraints, is that the review did not incorporate any grey literature or dissertation articles. This can result in possible publication bias. The rationale for this was considered and detailed within the methods of this review, and overall the extent to which such exclusion will have impacted findings is likely to be low. In addition to not including grey literature, all papers included within the review used American samples. Whilst the review focused on western populations due to the influence of different cultures on sexual trauma recovery, there were no papers published and included within the UK or in other western countries. Differences in legal and social issues between

countries may influence prevalence, reporting, prosecution and recovery (Carson, 2007), and so findings from the present review may not be generalisable to other western populations.

Despite this limitation, the current review, to my knowledge, is the first to synthesise the literature focusing specifically on the role of blame attributions in trauma outcomes. The topic is of importance due to the revision to the DSM criteria for PTSD; implying that blame attributions are a key factor with regards to outcomes. Thus, understanding their role in outcomes has important treatment implications; enabling practitioners to address attributions that may be contributing to negative outcomes and to utilise attributions that may serve a function in improving outcomes overtime.

Conclusions and Recommendations for Practice

The current review suggests that both CSB and BSB influence negative outcomes; however, BSB may be more adaptive overtime. There is still a lack of clarity as to whether this is due to perceived control as initially suggested by Janoff-Bulman (1979), or whether there are alternate explanations. For example, BSB was found to predict the decline in maladaptive beliefs overtime (Koss & Figueredo, 2004a). Whilst this may be attributed to increased perceived control over time, another possibility is that the victim's memory of the assault may change over time. Key central details of a traumatic event may be remembered better that other aspects of the event over time, including features of the assault and perpetrator (Bernsten, 2002). The victim's memory for their behaviours in relation to the assault may fade over time, and this may account for why maladaptive beliefs, such as "*I find myself worrying a lot about my safety*" or "*The world is filled with emotionally disturbed people*" also decrease over time. This could be a possible direction for future research to understand how blame attributions are associated with memory recall.

Whilst the differences between BSB and CSB are explored in depth in the present review, there was less consideration of other attributions of blame. Some studies found other types of blame, including blaming and other external factors, are associated with poorer recovery, as previously explained. These findings were less explored within individual studies' results and discussions. The findings were somewhat ignored in terms of implications and with regards to possible explanations of the relationship and as such, could be another direction to take future research.

The findings from the present review highlight that an individual's attributions of blame impacts on a plethora of negative outcomes and add complication to recovery. These findings have implications for trauma treatment. The approach to trauma recovery in therapy can be considered in three phases (Herman, 1992). Firstly, establishing safety (e.g., minimising the daily difficulties in regulating and soothing emotions), followed by processing the trauma, and then reconnecting with the world. It is noted that reverting to phase one throughout may be necessary to maintain a sense of safety. There are currently several effective psychological therapies for PTSD, including exposure therapies, cognitive-behavioural therapies and Eye-Movement Desensitization and Reprocessing (EMDR). As outlined by Moor and Farchi (2011), outcome studies have demonstrated that whilst these therapies have great value in minimising some of the symptoms of post-traumatic stress, they are restricted in their ability to address some of the specific factors associated with sexual trauma, including self-blame. For example, in Meadows and Foa's (1998) case study on a female victim of sexual trauma, exposure therapy enabled the victim's anxiety symptoms to decrease, but levels of self-blame were seen to increase in the process. This suggests that treating self-blame in this specific population of trauma victims should be a focus alongside other symptoms. The present review supports this notion, highlighting that for victims of sexual trauma, levels of self-blame are high and related to a range of measures of distress.

Addressing and processing self-blame should be a specific treatment goal, which may not be relevant in therapy for other traumatic events. More specifically, the present review also differentiates between the two types of self-blame and highlights how addressing BSB may be adaptive in further reducing PTSD symptoms. This could suggest that in terms of therapy, processing the victim's perceived wrongdoings (BSB) during the traumatic event (phase two; Herman, 1992) and contextualising/rationalising these behaviours, will also enable a decrease in distressing emotions (phase one; Herman, 1992).

In addition to specifically addressing behavioural self-blame appraisals, the present findings indicate how clinicians and therapists should be conscious of the potential for retraumatising the victim by placing any blame or accountability on them for the occurrence of the sexual trauma. Whilst this may seem obvious, what an individual blames their experience on could differ from person to person- it may not be negative traits that they blame. For example, when considering this in relation to CSB, if the victim blames their extrovert, outgoing and social traits for encouraging the event to occur, then therapists should be aware of this when providing feedback in therapy. The overarching goal would be for the therapist to validate the victim's account, whilst engaging in restructuring techniques to remove culpability and promote subsequent recovery- e.g., addressing how the victim's confidence and outgoing nature did not cause the event; the perpetrator caused the event.

Understanding the role of blame attributions when recovering from sexual trauma is an important topic, especially considering that experiencing self-blame and self-reproach is significantly higher in victims of sexual trauma compared to victims of other forms of trauma (Moor & Farchi, 2011). This high level of self-blame is likely endorsed by society's accusatory attitude towards rape victims, with victim-blaming being a frequent occurrence in sexual crime (Arata & Burkhart, 1996). It is therefore plausible that the implications of self-blame attributions on recovering from other forms of trauma may be less impactful than

when recovering from sexual trauma. In order to go beyond what can be addressed within treatment and intervention, the findings emphasize the need for society to minimise the extent to which victims may blame themselves, by actively engaging in victim support to counteract the responsibility they experience. The victim-blaming attitudes within society could increase the victim's self-blame, and so it is necessary to limit this in order to promote trauma recovery and minimise negative outcomes.

CHAPTER 3:

AN EXPERIMENTIAL EXAMINATION OF ALCOHOL, TRAUMATIC IMPACT, SELF BLAME AND MEMORY RECALL IN A HYPOTHETICAL RAPE SCENARIO

Abstract

Self-blame has been explored in relation to sexual trauma, with consideration of factors that may influence a victim's level of self-blame, as well as the effect that self-blame may have on other post-trauma outcomes. Research findings have demonstrated that self-blame may be influenced by the belief that one has consumed alcohol. Furthermore, research has recognised that high levels of self-blame can increase the traumatic impact of the sexual trauma. Both alcohol and traumatic impact have been found to have implications on memory recall of sexual trauma; however, to date, self-blame has only been considered in relation to subjective feelings of memory rather than objective recall measures. Using secondary data analysis, the current study sought to examine the relationship between the variables described, with specific focus on the relationship between self-blame and memory recall accuracy and completeness. Female undergraduates (N=63) were randomly assigned to have consumed alcohol or tonic, as well as being randomly assigned to have expected alcohol or tonic. They engaged in a hypothetical rape scenario and their levels of self-blame and traumatic impact were measured. One week later, participants engaged in an interview to capture their memory recall of the scenario. Alcohol expectancy and higher levels of characterological self-blame were associated with lower memory completeness. Traumatic impact was found to be positively related to self-blame. No relationship between memory recall and traumatic impact was observed. The findings are discussed in relation to previous research, potential implications, study limitations, and possible directions for future research.

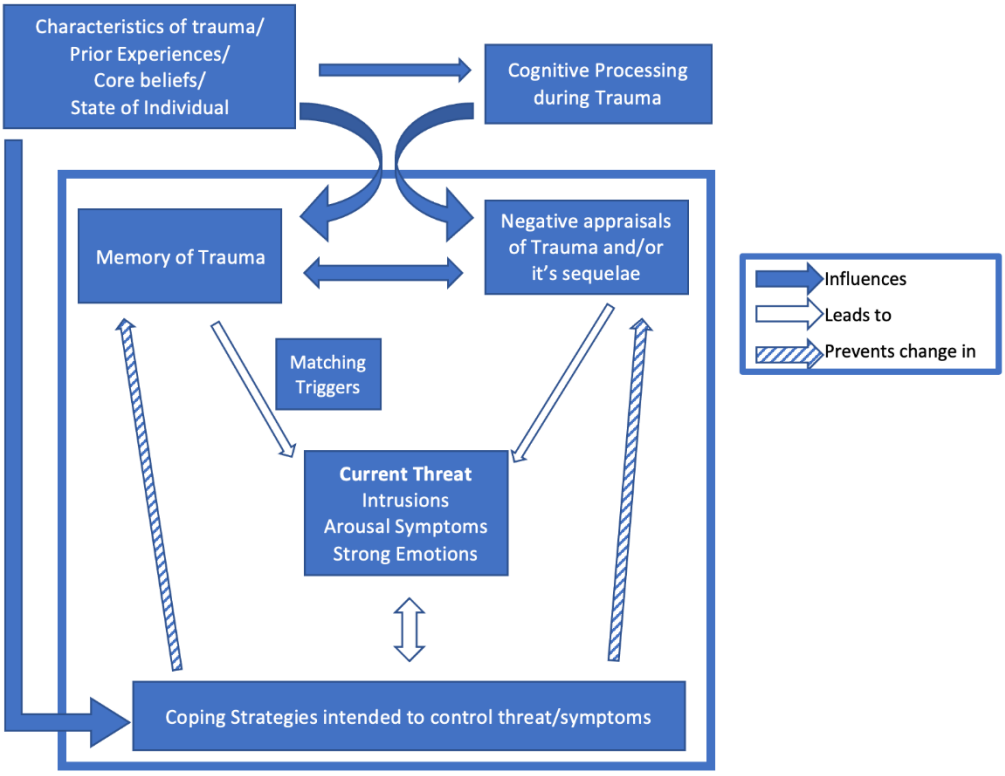
Introduction

Trauma and Memory

PTSD is conceptualised by a range of impairing symptoms, however, many theories concur that memory disturbances are a hallmark feature of the disorder (Ehlers & Clark, 2000). These memory disturbances are characterised by both limited voluntary retrieval of the trauma (e.g., fragmented memory; Harvey & Bryant, 2001), and increased involuntary retrieval of the trauma, (e.g., intrusions or flashbacks; Ehlers & Clark, 2000). Both types of memory disturbances are captured within Ehlers and Clark's (2000) model of PTSD (see Figure 4). The model states that an individual experiences PTSD symptoms due to sensing current serious threat, which is influenced by their appraisal of the trauma and the memory of the event, including how the memory links to their other autobiographical memories.

Figure 4

Ehlers and Clark's (2000) Model of PTSD



The reexperiencing of the trauma involves sensory experiences, including physical sensations and visual intrusions (see Ehlers & Steil, 1995) rather than thoughts. Relating to this, Ehlers and Clark (2000) coined the term "affect without recollection", which refers to how individuals can physically reexperience the trauma without having a recollection of the event. As a result, individuals can experience these physical intrusions even after acquiring information that contradicts with the original traumatic event (Ehlers & Clark, 2000). For example, Ehlers et al. (2004) observed a patient whose father had taken their own life by shooting himself. The patient experienced panic and an urge to find his father and rescue him when he found the suicide note, thinking he had taken sleeping tablets and could be saved if he acted quickly. Despite learning of his death, the patient continued to experience this panic and urge to find and save his father, demonstrating how physical intrusions can continue to be experienced after learning of information that contrasts with the original event.

The retrieval of the trauma, as captured in Ehlers and Clark's (2000) model, is negatively affected by both appraisals of the trauma and the coping strategies adopted to manage the perceived current threat. Appraisals refer to beliefs that occur relating to one's experience of the event. For example, experiencing that the trauma occurred may influence negative appraisals such as "the world is unsafe" or "I deserve bad things to happen to me". These appraisals can be seen to reflect different attributions of blame and responsibility relating to the trauma, such as blaming external factors or one's character. According to Ehlers and Clark (2000), an individual's recollection of the traumatic event can be seen to be biased by such appraisals, as they selectively retrieve information that reflects the appraisals. This incomplete, selective retrieval can mean that elements of the memory that challenge their appraisals are forgotten, limiting recovery.

In relation to coping strategies, victims of trauma may engage in dysfunctional strategies or develop various psychological defences in order to cope with their experience

(Bonanno et al., 2003; Ehlers & Clark, 2000), which may subsequently impact on their trauma memory (Eisen et al., 2007). For example, individuals may engage in thought suppression (Ehlers & Clark, 2000) or avoid talking about their traumatic experiences, perhaps due to anxiety or fear (McNally, 2004; Williams, 1994). As a result, the memory is not rehearsed, which can lead to forgetting and possible memory errors (McWilliams et al., 2014).

In addition to one's appraisals and coping strategies impacting recall, it is further proposed in Ehlers and Clark's (2000) model that traumatic memories are not always successfully incorporated into the autobiographical memory base, and that this can also impair recall. Conway and Pleydell-Pearce (2000) proposed that autobiographical memory is a knowledge base that organises memories by themes and personal time periods. To retrieve memories from this knowledge base, Brewin et al. (1996) proposed that there are two main retrieval routes. Firstly, memories can be verbally accessible and retrieved intentionally. Secondly, they can be situationally accessible and retrieved non-intentionally, such as via flashbacks. When an individual experiences a traumatic event, their attention may be narrowed (Brewin et al., 1996), resulting in the traumatic memory having gaps relating to time, location and other sensory features. Consequentially, the traumatic experience may not be well integrated into the autobiographical knowledge base, leading to problems with the first route as individuals cannot intentionally retrieve and verbally recall the event. As well as impairing recall, when the memory of the trauma lacks context, PTSD symptoms can be stronger (Siegel, 1995) as non-voluntary recall may increase.

Other findings have also supported the notion that declarative memory is impaired following traumatic experiences. Brewin's (2007) review on autobiographical memory for trauma concluded that trauma and non-trauma memories differ, but only in clinical populations as opposed to healthy populations. In particular, Brewin (2007) noted that

involuntary memory is enhanced in clinical populations (which can include flashbacks and intrusions) and that voluntary memory is more likely to be fragmented, disorganised, and incomplete. A review of the literature carried out by Walker et al. (2003) also indicated that memory for negative events tends to be poorer than memory for corresponding positive events. The idea that negative memories may be poorer has also been subjectively reported by victims of sexual trauma, with Koss et al. (1996) finding that memories of rape were rated as less clear and vivid, less likely to occur chronologically, less well remembered, and less talked about than other types of unpleasant memories. This may relate to the idea that victims engage in avoidant coping strategies to attempt to minimise distress, as described previously. However, alternatively, this may demonstrate how time impacts on the quality of memory, with the sample reflecting on memories from an average of over 20 years ago. Examining this relationship with more recent memories would be useful for determining what influences memories to be less vivid or clear.

Whilst this evidence suggests that traumatic memories may be impaired, there has been some evidence to suggest that salient factors that are directly relevant to the emotional memory may be enhanced (Christianson, 1992). Some researchers have argued that emotional memories are associated with increased clarity, accuracy and ease of retrieval. Brown and Kulik's (1977) theory on flashbulb memories states that emotional memories are more memorable and detailed. Further, cue utilisation theory (Easterbrook, 1959) states that high arousal leads to attention narrowing, with central details being better recalled. In line with this, Christianson and Loftus (1990) differentiated between central versus peripheral aspects of memory, finding that central details that are directly associated with the traumatic event tend to be remembered more accurately, whereas peripheral details that are not directly associated with the traumatic event are fragmented or forgotten. This finding has been frequently explored and replicated in both field and laboratory studies (Bernsten & Thomsen,

2005; Fivush et al., 2004). The results suggest that the emotional compared to neutral aspects of events are remembered more accurately, impacting on the overall completeness of the memory.

In sum, findings would suggest that central details within traumatic memories are accurately recalled whilst peripheral details may be forgotten, impairing the overall completeness of traumatic memories. This impairment in memory may be influenced by levels of arousal, an individual's appraisals, or the strategies used to recover from the traumatic event. This can be considered in relation to a range of traumatic events, including sexual trauma.

A Focus on Sexual Violence

The 2020 Crime Survey for England and Wales (CSEW) found that approximately 1.6 million adults experienced sexual trauma from the age of 16 at least once in their lifetime, with the majority of victims being female. Sexual trauma has been considered one of the most severe causes of trauma; rape is associated with a range of negative psychological outcomes, such as PTSD, depression and substance abuse (Kilpatrick & Acierno, 2003). According to a UK charity PTSD UK, it is estimated that approximately 94% of survivors of sexual trauma develop symptoms of PTSD within a fortnight of the event, with around half of these victims suffering symptoms long term. Given its high prevalence and the strong psychological impact on victims, sexual violence has received increasing attention within the trauma literature.

However, of the 1.6 million who have experienced sexual trauma, the statistics suggest that only around 256,000 (16%) reported their experience to the police. Furthermore, the legal process for rape conviction is complex. Many cases are dropped before making it to the final prosecution stages (Bouffard, 2000). In most rape cases, statements from the

reporting victim and alleged perpetrator serve as the primary evidence in the investigation (Lees, 2002), which can create challenges in finding sufficient evidence to establish the crime. Consequently, investigations heavily rely on memory reports. Whether memory for sexual trauma compared to other types of trauma is different has been considered, with conflicting findings observed. Porter and Birt (2001) found that memories for sexual trauma were related to increased sensory components, vividness, clarity and quality, compared to non-sexual trauma memories. Alternatively, Berliner et al. (2003) found sexual trauma memories to be less detailed and coherent. Whilst both studies assessed memory characteristics with self-report questionnaires, the latter study recruited children aged 8-16 years who had experienced child sexual abuse, compared to adult undergraduates recruited for the first study who had experienced sexual trauma in adulthood. It could be hypothesised that a child's memory of sexual abuse is less detailed due to a lack of understanding and awareness of sexual behaviour, and lower cognitive capacity (Friedberg & McClure, 2002). This may affect what is encoded and retained. Furthermore, Berliner et al. (2003) used a clinical sample of children who were receiving treatment for their traumatic experiences, whilst Porter and Birt (2001) utilised a community sample of undergraduates. Given that the overall completeness of memories may be negatively impacted by trauma, this may offer some context as to why the clinical sample described having less detailed memories of their sexual trauma than the sample of undergraduates.

In cases of rape or sexual violence, data has suggested that the majority of cases have involved the consumption of alcohol (Brecklin & Ullman, 2010; Palmer et al., 2013); with Mohler-Kuo et al. (2004) suggesting the statistics are between 70-80% for victim intoxication. However, it is still the testimony of both the alleged victim and perpetrator that often acts as the primary evidence in rape cases (Lees, 2002). This can be challenging for victims, particularly as lay people have been found to view testimonies as less accurate when

the victim was alcohol intoxicated at the time of the offence (Houston et al., 2013; Lynch et al., 2013).

Alcohol and Memory in Sexual Trauma

Ehlers and Clark's (2000) model of PTSD posits that the characteristics of the traumatic experience and the state of the individual influences the nature of trauma memory. As data suggests that a high proportion of sexual trauma cases involve alcohol, and victim statements are relied upon in investigations, the relationship between alcohol and memory has received considerable attention in the literature. Alcohol is one of the most consumed substances in the world but has been evidenced to impair elements of cognitive functioning (Rose & Duka, 2008; Scaife & Duka, 2009). Research investigating the relationship between alcohol and memory has been conflicting in terms of what aspects of memory alcohol may affect. There is evidence to suggest that alcohol may impact on attention allocation, memory consolidation, and memory recall.

With regards to attention allocation, Alcohol Myopia Theory (Josephs & Steele, 1990; Steele & Josephs, 1990) posits that alcohol limits cognitive capacity and narrows attention to cues that are immediate, salient, and easily comprehended. This theory has been used to predict the impact of alcohol on various behaviours and social risk-taking, including aggression and sexual behaviour (Davis et al., 2007; Flowe et al., 2011), as individuals attend to salient cues (such as an insult, or a female flirting) that inhibit these behaviours, rather than distal cues (e.g., the possible arrest/legal implications of behaviour) that may disinhibit these behaviours. This theory has been applied to memory, with consideration of how alcohol may impact the free recall of peripheral details compared to central details of an event. Schreiber Compo et al. (2011) found that intoxicated participants recall differently from placebo and control groups when recalling peripheral information, with intoxicated participants being more likely to report subjective information and less likely to report peripheral (i.e., scenario)

information compared to placebo and control participants. However, no differences were observed between groups with regards to the accuracy of their recall.

Harvey et al. (2013) also considered the role that alcohol may have on attention and memory in an alcohol vs. no alcohol between-subjects study design. The study sought to determine whether intoxicated viewers spend longer attending to central features of a visual scene and less time attending to peripheral features, compared to their sober counterparts. Further, they also considered whether the limited time attending to peripheral features when alcohol intoxicated would influence deficits in peripheral recall, and whether alcohol myopia depends upon the emotional salience of the central event. Alcohol was found to increase the percentage of fixations made to central features of the stimulus and decrease the proportion of peripheral fixations. Despite alcohol increasing the proportion of fixations to the centre of the stimulus, participants failed to recall as many items from this region as the sober group. This was found to contradict studies that have explored the relationship between eye fixations and memory recall (Loftus, 1972). Harvey et al. (2013) acknowledged that they did not have an alcohol placebo group, thus the role that alcohol expectancy effects may have had on recall could not be ruled out. For example, individuals who consumed alcohol were told it was alcohol, thus the expectancy of consuming alcohol and its potential negative influence on memory may have influenced findings. A fully crossed four-condition placebo design would have enabled these expectancy effects to be explored.

In addition to attention allocation impacting recall, Flowe et al. (2019) found that individuals who have consumed alcohol may elect to recall their most salient memories to minimise the likelihood of making errors. This suggests that the recollection provided by individuals is adjusted to minimise errors and compensate for the potentially negative effects of alcohol on their memory. This influences a decrease in correct details but does not increase incorrect recall. Similarly, Flowe et al. (2016) examined the impact of alcohol on women's

memory of a hypothetical rape scenario. Participants were tested both 24 hours and four months following the scenario when they were sober. Findings demonstrated that females who had consumed alcohol at the time of the hypothetical rape answered fewer questions and were more likely to answer with "I don't know". However, whilst they provided less information, the accuracy of the information that they did provide did not differ when compared to their sober counterparts. These findings indicate that alcohol intoxication at encoding influences people to recall their memories more conservatively than they would if sober. In other words, alcohol leads people to report information only when they are relatively confident that the information they are remembering is accurate. A meta-analysis exploring the effects of alcohol intoxication on memory recall has supported the notion that alcohol intoxication significantly decreases the number of correct details recalled, but does not increase the number of incorrect details recalled (Jores et al., 2019).

There has also been consideration as to whether alcohol-intoxicated individuals are more easily influenced by misinformation. Van Oorsouw et al. (2015) found that participants who were severely intoxicated (BAC = approx. 0.16%) were more likely to be influenced by suggestive cues than those who had not consumed alcohol when questioned about a mock crime. However, there are methodological flaws to be noted in the study. Participants were self-intoxicating and alcohol intoxication level was not experimentally controlled. Further, the suggestive questioning used does not reflect that used in police interviews and involved providing two incorrect alternatives within a question (e.g. "*Did the wallet contain 50 or 100 euros*?" when the wallet contained 70 euros). Further, a priori scoring protocol was used to convert the recall into scale data, which limited the extent to which findings can be applied to read world questioning. Finally, individuals were approached in a bar, and so there was very limited control over their level of intoxication and extraneous variables. Overall, this impacts the external validity of their findings.

Alternatively, Flowe, et al. (2019) addressed the methodological flaws in Van Oorsouw et al.'s (2015) study and found that misinformation did not have a differential effect on memory reporting depending on whether participants were intoxicated at encoding. However, while alcohol intoxication was experimentally controlled, the average BAC of those assigned to consume alcohol was only .06 in Flowe at al.'s study (2019). Nevertheless, participants who expected they had consumed alcohol reported fewer correct details compared to those who expected they had not, regardless of what they had consumed. However, participants who expected they had consumed alcohol were not any more likely to report incorrect details, meaning that accuracy was not affected. The findings were explained in relation to the hypervigilance hypothesis (Testa et al., 2006). This hypothesis proposes that alcohol expectancy can lead to compensatory behaviour due to anticipated poorer performance arising from intoxication. In relation to sexual trauma, Testa et al. (2006) found that females who believed they were intoxicated had increased vigilance and awareness in a scenario in which a man was making aggressive sexual advances. The findings suggest that if females are in vulnerable positions, alcohol can increase attention to salient cues and thereby increase the strength and amount of information encoded, minimising the likelihood that women will be influenced by misinformation. The hypervigilance hypothesis was also used to explain Schreiber Compo et al.'s (2011) findings, in which placebo participants showed more conservative reporting behaviour than the alcohol or control groups by providing more uncertain and "don't know" responses. This further suggests how the expectancy of having consumed alcohol impacts completeness of recall more significantly than the consumption of alcohol.

Overall, findings indicate that individuals become more conservative when recalling memories when believing they have consumed alcohol, rather than alcohol consumption having a significant impact. This means that recollection may be less complete due to

encoding failures, whilst the accuracy of their recall remains unaffected. This area of research is still in its early days, and there are some methodological concerns across studies which impact on the conclusions being drawn. Consequentially, Flowe and Schreiber Compo (2021) recommend that any application of findings to investigation processes could have a negative impact on investigations and criminal proceedings. This suggests a need for this area to be further investigated within research.

Self-Blame in Sexual Trauma

Whilst there has been focus on the factors influencing the memory and investigative process of sexual trauma, there has also been consideration of the psychological impact that sexual trauma has on victims. One area of focus has been the impact of a victim's blame attributions on recovering from sexual trauma (see *Chapter 2* for an overview). "Attribution" has been defined as the process used by individuals to explain the causes of behaviour and events (Alder, 1980). Two types of attribution were initially identified by Heider (1958). It was identified that individuals can engage in dispositional attribution, whereby causality for an event is assigned to internal characteristics, or situational attribution, in which causality is assigned to external factors outside of one's control, such as the situation or environment. In the context of sexual trauma, a victim engaging in dispositional attribution may assign blame to their own behaviour or their perpetrator's behaviour. Alternatively, a victim engaging in situational attribution may assign blame to a misogynistic society that objectifies women. Attribution theory has been investigated in relation to sexual trauma in the context of vignettes and scenarios, whereby participants assign blame to a victim or perpetrator. Calhoun et al. (1976) applied principles of attribution theory to consider judgments of rape, predicting that individuals attribute blame by assessing the "covariation" between two variables (Heider, 1958; Kelley, 1968). The covariation principle suggests that laypeople search for causal explanations for social behaviour (Kelley, 1968), and that behaviour is

attributed to the condition that is present when the reaction is present, and absent when the reaction is absent. Within Calhoun et al.'s (1976) study, attribution of blame was highest for victims when they had been raped more than once and when there had been few rapes within an area. Whilst other explanations could be offered, the findings were described to be congruent with Attribution Theory (Calhoun et al. 1976). There has been limited application of Attribution Theory with regards to a victim's personal attributions, and whether similar findings are observed. However, the role of blame attributions on a victim's recovery has been explored.

In 2013, the DSM-V criteria for PTSD was revised to incorporate persistent, distorted blame of the self or others (American Psychiatric Association, 2013), indicating that an individual's attribution of blame is an important feature of PTSD. This has influenced further exploration of blame attributions in trauma within research. This exploration has been important given the criticism of the blame criteria within the PTSD construct. For example, Green (2018) acknowledged that there is no distinct separation between self-blame and other types of blame, which are very distinct concepts that have different roles with regards to their association with PTSD symptoms. Further, the criteria depicts that the blame should be "distorted", which can be challenging to determine. Given the clinical relevance of blame attributions and its association with PTSD, it is evident that this is something that requires further exploration. At what point does 'blame' become pathological?

Victims of sexual trauma have reported some of the highest levels of self-blame and PTSD symptoms compared to victims of other forms of trauma (Moor & Farchi, 2011). Rape survivors were compared with victims of combat stress, individuals involved in car accidents, individuals informed of life-threatening illnesses and individuals who had suddenly lost a loved one. Victims of rape demonstrated significantly higher levels of self-blame and PTSD, assessed via Meyer and Taylor's (1986) measure of attributions of rape and the Post

Traumatic Diagnostic Scale (PTDS, Foa et al. 1997) respectively. Additionally, the relationship between self-blame and PTSD was stronger for those who had experienced rape compared to other forms of trauma. Supporting this notion, Cohen and Mannarino (2002) report that a victim's attribution of blame for sexual trauma is one of the most important factors in determining the impact of the event on the victim. The idea that self-blame can influence recovery was considered early on within the learned helplessness model (Peterson & Seligman, 1983). This model posits that the impact of an event is influenced by an individual's self-efficacy, specifically, their perceived ability of avoiding the event in the future. After experiencing a negative event that is out of the individual's control, an individual is described as assuming that control is no longer present and they subsequently acquire 'learned helplessness'. Learned helplessness reflects behaviours of accepting an adverse stimulus even when it is possible to escape due to perceived powerlessness. In relation to self-blame, Abramson, Seligman, and Teasdale (1978) state that self-blame in helplessness occurs due to the "attribution of failure to factors that are controllable" (p. 62). The self-blame that the individual engages in is said to be underpinned by poor self esteem and high self criticism, reflecting Janoff-Bulman's (1979) definition of 'characterological self blame'.

Janoff-Bulman (1979) depicted two types of self-blame, characterological self-blame (CSB) and behavioural self-blame (BSB). With CSB, the victim blames their character or personality, and this reduces their perceived control over future events. In turn, this provokes more severe traumatic impact, such as greater PTSD symptoms (Ullman, Filipas et al., 2007). Janoff-Bulman (1979) differentiated between these two types of self-blame due to previous findings indicating how 'self-blame' may be both adaptive and maladaptive. For example, Bulman and Wortman (1977) identified that self-blame was a predictor of good coping after experiencing a sudden accident. It was concluded that this is because self-blame

implies that an individual has perceived control over events, and so they can prevent the same events from occurring in the future. It was subsequently argued that treating self-blame as one entity was too simplistic (Janoff-Bulman, 1979) and research has since explored the implications of these two types of self-blame on recovery.

This idea that self-blame can impact on recovery can be seen to relate to Ehlers and Clark's (2000) model of PTSD. In the model, an individual's negative appraisals (which may include beliefs about one's character and actions) leads to a sense of current threat, emotional arousal and intrusions. Further, within the model, how the individual appraises the event, can influence the subsequent negative appraisals that they engage in. For example, appraising that the trauma happened specifically to them, may result in appraisals of "I attract disaster". Such appraisals relate to CSB, reflecting beliefs about one's character. These appraisals can mean that the probability of such traumatic event occurring again is exaggerated by the individual, meaning that they are faced with a current perceived threat. Furthermore, if one appraises negative responses from others after the trauma (which is more likely when an individual engages in CSB; Ullman, Filipas et al., 2007; Ullman & Najdowski, 2011) then they are likely to engage in appraisals such as "Nobody is there for me" or "I cannot rely on other people". This may then reflect why CSB reduces the likelihood of disclosing the assault to others (Starzynski et al., 2007).

Alternatively, with BSB, the individual blames their behaviours and decisions at the time of the event. It was suggested by Janoff-Bulman (1979) that this blame type increases an individual's sense of perceived control, as their behaviour is something that can be adapted in future scenarios. As such, Janoff-Bulman (1979) hypothesised that engaging in BSB may reduce distress and anxiety following trauma compared to that of CSB, and that self-blame can thus be both adaptive and maladaptive. Studies have subsequently explored the relationship between self-blame, perceived control and PTSD symptoms. In a sample of

women who were involved in a sexual harassment lawsuit against a nationwide finance corporation, Larsen and Fitzgerald (2011) found perceived control to completely mediate the relationship between self-blame and PTSD symptoms, indicating that perceived control may be adaptive. However, as the sample were involved in litigation, they may have had a desire to demonstrate higher levels of distress and this could limit the generalisability of findings. Frazier, (2003) failed to replicate a relationship between BSB and increased perceived control, finding BSB to be positively associated with more distress across four time periods (with a medium to large effect size reported according to Cohen, 1992) and associated with less perceived control across four time periods (with a small to medium effect size reported).

Alternatively, Kaye-Tzadok and Davidson-Arad, (2016) found that engaging in self-blame can predict post-traumatic growth following sexual abuse. One hundred female survivors of child sex abuse completed self-report questionnaires relating to a range of outcomes including the nature of their abuse, post-traumatic growth and self-blame. In regression analyses looking at predictors of post-traumatic growth, the contribution of past self-blame was significant, so that higher self-blame was associated with higher PTG. Self-blame has mostly been associated with increased distress and PTSD symptoms (see Chapter 2). It is suggested that distress is where post-traumatic growth stems from (Tedeschi, 1999; Tedeschi & Calhoun, 2004). This would imply that self-blame, whilst initially promoting negative outcomes, is a necessary feature in recovery and can have an adaptive role following sexual trauma.

In general, the literature highlights the complexity of blame attributions in sexual trauma, with some hypothesising self-blame to be adaptive, and others hypothesising that it plays a maladaptive role in recovering from sexual trauma, depending on the type of self-blame one might engage in. It also indicates that extraneous variables are likely to influence such relationship.

Alcohol and Self-Blame in Sexual Trauma

The relationship between alcohol and PSTD symptoms has been explored in research. Bisby et al. (2010) identified an inverted U-shaped relationship between the amount of alcohol consumed and the experience of intrusions, with lower and higher amounts of alcohol increasing the number of intrusions experienced. Whilst alcohol may be associated with PTSD symptoms, in relation to Ehlers and Clark's (2000) model, it is likely that factors such as an individual's appraisals mediate this relationship. Ehlers and Clark's (2000) model of PTSD proposes that the characteristics of the traumatic experience and the state of the individual at the time of the experience influences their cognitive processing of the trauma and their subsequent appraisals of the event. As previously described, many victims of sexual violence were alcohol intoxicated at the time of the offence (Brecklin & Ullman, 2010; Palmer et al., 2013), which could influence the way the individual appraises the event. In a balanced placebo design, Flowe and Maltby (2018) found that participants who engaged in a hypothetical rape scenario and believed they had consumed alcohol had higher levels of self-blame for the rape (i.e., the effect size as measured by Cohen's d was .44, which is a small-medium sized effect). Self-blame was measured by the sum total of participants' responses on the Rape Attribution Questionnaire. This was the case despite the fact that participants were randomly allocated to consume an alcoholic or non-alcoholic beverage and, thus, participants should have been aware that alcohol consumption was out of their control. Alcohol expectancy was also controlled in the study, with half of participants in each beverage condition told that they were consuming alcohol, and the other half told that they were consuming tonic water alone. Participants were also asked after the experiment which beverage they thought they had consumed. The results indicated that alcohol beliefs were more strongly related to participants assessments of self-blame compared to alcohol expectancy, and the size of the effect was larger for participants who rated their feelings of

alcohol intoxication as relatively high. These researchers hypothesized that the relationship between beliefs and self-blame resulted from participants comparing their experience in the scenario and intoxication state to stereotypical conceptions of 'real rape', wherein "real" victims are sober. A common rape myth is that if the woman is intoxicated at the time of a sexual assault, it must be her fault (Payne et al., 1999). This may indicate that the participants in Flowe and Maltby's study (2018) who believed they had consumed alcohol engaged in 'rape myth acceptance', which has been defined as the acceptance of "prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists" (Burt, 1980 p. 217). In line with Ehlers and Clark's (2000) model, it could indicate that the cognitive processing during trauma is more impactful on victim appraisals than the actual characteristics of the trauma. In other words, the processing of the belief that one has consumed alcohol has more effect on self-blame than the actual consumption of alcohol.

Lonsway and Fitzgerald's (1994) review on the acceptance of rape myths identified that people who accept rape myths may offer inaccurate definitions of rape due to a lack of familiarity with the legal definition of the crime. Thus, individuals may rely on myths that incorrectly define rape, such as whether a weapon was used. Norris and Cubbins (1992) identified that research participants often perceive a 'real rape' to be one in which the victim has not consumed alcohol and in which the perpetrator is a stranger. Supporting this notion, it has been found that research participants perceive a female who is consuming alcohol on a date to be more interested in sexual activity (George et al., 2000). Sims et al. (2007) also found that if a female victim of rape has consumed alcohol, then female research participants are more inclined to hold the victim accountable. Undergraduate students read written vignettes of a sexual assault, in which the female was either described to have consumed alcohol or to be sober. Participants completed a range of measures which included questions relating to who was responsible for the assault. Participants were more willing to blame the

woman for the sexual assault when she has described as having consumed alcohol, suggesting that alcohol vis-à-vis rape myth acceptance had affected participants' assessment of the victim's blameworthiness.

With these rape myths in mind, if a victim experiences a rape that does not meet 'real rape' criteria (e.g., they have consumed alcohol on a date), then they may experience increased levels of self-blame. As victim alcohol intoxication is frequently observed in rape cases (Brecklin & Ullman, 2010; Palmer et al., 2013), and most rape cases occur with familiar perpetrators such as former intimate partners, rather than strangers (Black & McCloskey, 2013; Office for National Statistics, 2018), it may be understandable as to why such high level of self-blame have been observed in victims of sexual trauma (Moor & Farchi, 2011). The notion that rape myth acceptance may have implications for attributions of blame was considered by Heath et al. (2011), who recruited victims of sexual assault from a U.S. state prison. They explored the associations between rape myth acceptance (RMA) and disclosure or reporting of rape using thematic analysis. Women's narratives - particularly those of women who had not disclosed their experiences - were found to frequently include a variety of rape myths that involved blaming themselves for the rape. This may indicate how victims can also engage in rape myth acceptance and blame themselves for their sexual assault, and how alcohol may increase the likelihood of this happening.

Overall, despite most studies exploring rape myths and alcohol consumption via third party scenarios, the findings may provide some rationale as to why the expectancy of having consumed alcohol may increase an individual's level of self-blame. In exploring attributions via third-party scenarios instead of in relation to self-blame, the direct effect of alcohol on the victim cannot be reliably assumed, thus further research is required in order to explore this relationship further.

Self-Blame and Memory in Sexual Trauma

Ehlers and Clark's (2000) model of PTSD proposes that trauma memory is influenced by the victim's cognitive appraisals, which are defined as the way in which an individual interprets an event. Memory can be impaired due to the selective retrieval, whereby the rememberer does not recall aspects of the event that contradict their appraisals. For example, victims that perceive their experience as 'rape' may reconstruct and recall the event differently compared to those that perceive the same event as a 'bad sexual experience' (Carli, 1999). Further, victims perceiving rape to have happened as a result of their own behaviour (e.g. blaming themselves) recall it differently from those that perceive the rape to have happened because of a society that condones male entitlement (e.g. external blame; Levine, 1997). Pyszczynski et al. (1989) found events that were recalled by individuals who were depressed to be more negative in content compared to those non-depressed, which was explained in relation to self-regulatory perseveration theory (Carver & Scheier, 1981). This theory posits that individuals who have experienced a traumatic event or loss will engage in excessive self-focus, which in turn has numerous effects such as lowered self-esteem and increased internal attributions of blame. This implies that the experience of a negative event, such as sexual assault, may result in appraisals relating to excessive self-focus and self-blame, leading to a recollection comprised of more negative content that is compatible with these appraisals. This can be seen to support Ehlers and Clark's (2000) model of PTSD, which suggests that when individuals with PTSD recall the traumatic event, their recall is biased by their appraisals, and they only selectively recall details consistent with their appraisals. This may suggest that if an individual appraises a sexual assault to have occurred because of their own behaviours (such as the fact they consumed alcohol or went to the perpetrators apartment), then these details may be the focus of their recall whilst other details are "forgotten". If this is the case, then it may be expected that self-blame appraisals impact on the completeness of their recall.

There is little direct research about how self-blame may relate to the survivor's memory of the assault. To the author's knowledge, Koss et al. (2002) were the only researchers to specifically consider how self-blame is associated with memory characteristics. Specifically, memory characteristics referred to subjective self-ratings of the qualities of the reconstructed memory of rape. They recruited female health professionals and measured whether they had experienced sexual trauma. Among those who had experienced sexual trauma, the perceived quality of their memories about the assault was assessed via self-report. They found that characterological self-blame positively correlated with self-reports of 'reexperiencing memory', which was consdiered as the re-experience of events during voluntary recall. They suggested that higher levels of self-blame lead to re-experiences of the trauma memory when recalling the event. This is in line with Ehlers and Clark's (2000) model of PTSD, in which the negative appraisals (characterological self-blame) increase intrusions and arousal symptoms (labelled as reexperiencing memory). Whilst supporting theory, there were limitations within the study. Memory ratings were not validated by measures of actual memory accuracy. Furthermore, confounding factors such as the age of the memory (which ranged from 0-44 years), were not controlled for in analysis. These factors could have influenced both self-blame and memory characteristic scores.

There has not been any specific research detailing how self-blame may impair memory recall. Whilst it is acknowledged in Ehlers and Clarks model that appraisals may impact the memory of the trauma, this does not appear to have been specifically explored in relation to blame attributions and memory recall. Given that persistent and distorted attributions of blame are criteria for PTSD, a disorder characterised by memory disturbances, understanding this relationship is of clinical relevance. It would therefore be of interest to consider how memory may be affected using objective measures, immediately after participants have experienced the trauma and where other variables can be controlled. This

would enable more conclusive results to be established with regards to the relationship between memory and self-blame.

Research Aims and Hypotheses

To summarise, Ehlers and Clark's (2000) model of PTSD proposes that the characteristics of an individual's traumatic experience influences their appraisals and memory of the traumatic event. These appraisals can be seen to increase perceived traumatic impact and perceived threat (e.g., PTSD symptoms) and further impact on the memory of the trauma. Specifically, when individuals experiencing high levels of traumatic impact recall the traumatic event, their recall is biased by their appraisals and they selectively retrieve information that is consistent with these appraisals. This impacts on the completeness of recall.

To put this into the context of sexual trauma, a typical characteristic of such traumatic experience is the consumption of alcohol. Individuals having expected to have consumed alcohol have previously been observed to have higher levels self-blame appraisals and consuming alcohol has been observed to negatively impact memory completeness. Self-blame appraisals have also been observed to increase PTSD symptoms. On the basis of the model, it would be expected that self-blame appraisals lead to less complete memories of the traumatic event as individuals neglect information that is not compatible with their event appraisals during recall. Whilst the link between self-blame and other memory disturbances has been considered in previous research, the direct link between self-blame appraisals and recall of the traumatic event has yet to be explored in the context of sexual trauma.

Utilising a secondary dataset, the present study seeks to explore this relationship. The present study aims to explore the roles of alcohol and self-blame on predicting memory completeness. The present study also aims to explore the roles of alcohol, self-blame and

memory completeness on predicting traumatic impact. The secondary data arise from research wherein participants were asked to imagine themselves in a hypothetical dating scenario that ended in rape. Participants had consumed alcohol or tonic water before they engaged in the scenario. One week later, they recalled the scenario by undergoing a simulated police interview. Based upon the described research and Ehlers and Clark's (2000) model, the hypotheses regarding the relationships between variables are as follows:

Hypothesis 1

Hypothesis 1 considers the relationship that alcohol expectancy will have with all other variables. It is predicted that alcohol expectancy, rather than consumption, will be negatively related to memory completeness (but not memory accuracy), and positively related to self-blame and traumatic impact, in that when individuals believe they have consumed alcohol, their recall of the trauma will be less complete, and their self-blame scores and traumatic impact scores will be higher.

Hypothesis 2

Hypothesis 2 considers the relationship that self-blame will have with the variables not addressed in Hypothesis 1. It is predicted that self-blame will be positively related to traumatic impact and negatively related to memory completeness (but not memory accuracy), in that higher levels of self-blame will be associated with higher traumatic impact scores and less complete memories.

Hypothesis 3

Hypothesis 3 considers the relationship that memory completeness will have with the remaining variables not addressed in Hypotheses 1 and 2. It is predicted that memory completeness (but not memory accuracy) will be negatively associated with traumatic impact, in that when individuals remember less, they will have higher traumatic impact scores.

Hypothesis 4

Hypothesis 4 considers which variables will predict memory completeness. It is predicted that alcohol expectancy and self-blame will predict memory completeness (but not memory accuracy).

Hypothesis 5

Hypothesis 5 considered which variables will predict traumatic impact. It is predicted that alcohol expectancy, self-blame and memory completeness (but not memory accuracy) will predict traumatic impact scores.

Method

The present study is a secondary analysis, using the datasets from Flowe et al. (2019) and Flowe and Maltby (2018). These studies utilised the same participants who took part in a large-scale study that presented participants with a hypothetical rape scenario and then tested their performance on a police interview (Flowe et al., 2019) and assessed their self-blame (Flowe & Maltby, 2018), as well as assessing their PTSD symptoms (unpublished data). An overview of the methods and procedures of these studies will be provided next, followed by a description of the secondary data analysis methodology used in the present study.

In both studies, the female sample was recruited from the University of Leicester via advertisements for social drinkers around the university campus. Participants who responded to the advert were contacted by the researchers and informed that there would be an initial pre-screening assessment and that the study involved sensitive topics including rape and sexual assault. Prior to participation, written informed consent was obtained by females, which also enabled their data to be used in future research. The participants were informed that they could withdraw at any time during the procedure. The women were remunerated for their participation (£6 per hour).

Materials and Procedure

The University of Leicester's Psychology Research Ethics Committee granted ethical approval for the research. The study was conducted by female researchers.

Pre-screening

The women completed several pre-screening measures prior to participating. These included:

1. The 10-item Alcohol Use Disorders Identification Test, (AUDIT; Babor et al., 2001). This is used to detect harmful alcohol consumption.

1. A general health questionnaire (designed by the researchers). This was used to identify any current health problems (i.e., heart or liver disease and psychiatric disorders).

2. An assessment of prescription medications that participants were taking. This was to identify if any prescriptions interacted with alcohol.

Participants scoring less than 11 on the AUDIT, who did not have any health-related problems and who were not prescribed medication that could interact with alcohol were invited to participate.

Laboratory Screening

The participants invited to participate were asked to not consume any food for four hours and to not consume alcohol for 24 hours prior to participating. This was verified on arrival via a reviewing of the pre-screening questionnaires with the participant. The participant's ID was checked to verify age and a pregnancy test was administered to confirm that they were not pregnant. Measurements including height, weight and their blood alcohol content (BAC; gauged by the AlcoHawk Slim Digital Breath Tester) were all recorded. All participants had a BAC of 0.00% to start. Participants were made aware that their BAC levels had to be less than 0.02% to leave following participation.

Beverage Manipulation

Participants were randomly assigned to either the alcohol or tonic water beverage condition, and were either told they had tonic water or alcohol to manipulate alcohol expectancy in a fully crossed 2 x 2 between groups design.

Depending on the condition they had been assigned to, participants consumed either three cups of vodka (37.5% proof) mixed with tonic at a ratio of 1:5 respectively, or three cups of tonic. Depending on their expectancy condition, participants were either told they were consuming alcohol or tonic. Participants did not see their drinks being prepared. The cups were labelled with "Vodka and Tonic" or "Tonic Water" in line with their expectancy condition. Participants were told to drink one cup every 5 minutes.

Thirty minutes after they started drinking, participants were breathalysed. Mean BAC was 0.00% for the Tonic condition and 0.06% for the Alcohol condition.

Hypothetical Rape Scenario

Immediately after being breathalysed, participants engaged with the hypothetical rape scenario. The hypothetical rape scenario was administered utilising the Participant Choice Paradigm. The Participant Choice Paradigm enables participants to be involved in the scenario; controlling the level of interaction that she wishes to engage in with the male. This includes being able to decide whether the participant wishes to accept a ride home or engage in consensual sexual contact.

In total, there were 16 different hypothetical rape scenarios that participants could be randomly allocated to. These conditions were formed by crossing four separate scenario locations and four separate male profiles. The purpose was to increase external validity over different types of dating situations. There was no effect of scenario version on memory reporting (Flowe et al., 2019); hence, scenario version will not be considered further in relation to the memory measures. There were a total of 25 scenario stages to which participants could 'consent' to proceed in the scenario being described, or they could "call it a night" and end the scenario. All participants were subject to the first stage of the scenario,

which provided background information about the scenario location and the male. The scenario was administered via both written text and audio on a computer screen.

The first stage of the hypothetical rape scenario involved background information about the setting and the male, including his occupation and interests. A photo of the male was also provided, taken from the Radbound Face Database (Langner et al., 2010). He is described as acting flirtatiously. Throughout the stages, if a participant decided to "call it a night", it was described that a legally definable act of rape had occurred. Participants could not return to previous stages to change their mind or act differently.

Regardless of experimental conditions, all participants were breathalysed intermittently every 30 minutes throughout the study. Participants in the alcohol condition could leave when their BAC was at 0.02%. Participants in the tonic condition remained for two hours after consumption. This was done to mask conditions. During this time, participants could read, watch a film, browse the internet or talk to the research assistants. The study could not be discussed. The research assistants were trained to observe for adverse effects following the scenario and the women were provided verbal and written information on counselling services on an off campus. Participants were informed that they would receive a link to online questionnaires a week later and that they should complete and submit the questionnaire they day they received it. Further, participants returned a week later to be interviewed about the scenario.

Rape Attribution Questionnaire

As described in Flowe and Maltby (2018), amongst the questionnaires included the characterological and behavioural self-blame subscales from the Rape Attribution Questionnaire (Frazier, 2003). These subscales assess self-blame attributions. The characterological self-blame scale assesses the belief that an individual's character and

personality has contributed to the sexual assault, such as "*I am just the victim type*". The behavioural self-blame scale assesses the belief that an individual's behaviours and decisions at the time influenced the sexual assault, such as "*I just put myself into a vulnerable position*". Items are rated on a 5-point scale from 'Never' to 'Very Often'.

Memory Questionnaire

As described in Flowe et al. (2019), when returning to the laboratory a week later for their interview, participants read a post event narrative of the first stage of the dating scenario (the stage that everyone had been exposed to). They were informed that the study was investigating procedures for increasing the quality of memory recall during police interviews and that the participant was going to be interviewed about the hypothetical rape scenario.

Participants were randomly assigned to be either interviewed with the Self-Administered Interview (SAI, Gabbert et al., 2009; Hope et al., 2011) or the modified cognitive interview (CI, Holliday et al., 2012). The SAI is based upon the CI, consisting of five sections that support in the recall of an event. In the first section, an overview of the interview was provided, and participants were asked to give the most complete and accurate account possible, including the reporting of partial and trivial information, but to refrain from guessing. In the remaining sections, non-leading cues were used to prompt recall on specific factors including the appearance of the perpetrator, the location, and any information on vehicles.

Following the interview, participants recorded whether they believed they had consumed alcohol and rated how intoxicated they felt to assess the expectancy manipulation.

Present Study: Secondary Analysis

The present study received ethical approval from the University of Birmingham to conduct the secondary data analysis on the data previously collected and described above.

Participants and Design

Participant ID numbers were used to identify which participants had completed all measures of interest. The final sample was comprised of 63 females from the University of Leicester, ranging from 18 to 28 years (M= 19.9 years, SD= 1.82) of age. Their data were collated into a single dataset.

Within this new dataset, 31 participants belonged to the tonic water condition, with 16 participants expecting to consume tonic and 15 expecting to consume alcohol. A total of 32 belonged to the alcohol condition, in which 18 expected to consume alcohol and 14 expected to consume tonic. Overall, 34 participants' condition and expectancy were congruent, whereas 29 participants' condition and expectancy were incongruent. The number of participants belonging to each condition can be seen in Table 3.

Table 3

Number and Percentage of Participants across the Expectancy and Consumption conditions

	Condition	Frequency	Percentage
Consumption	Tonic	31	49.2%
	Alcohol	32	50.8%
Expectancy	Tonic	30	47.6%
	Alcohol	33	52.4%

In the next section, information about the materials and procedure used in the original studies (Flowe et al., 2019; Flowe & Maltby, 2018), is provided.

Materials and Procedure

Alcohol Intoxication Variables

The research utilised a balanced placebo design. As stated above, alcohol consumption and alcohol expectancy were experimentally controlled following procedures used in previous research (Attwood et al., 2009; Flowe et al., 2019). For the presents study, the average level of intoxication for those who consumed alcohol was .07, as measured by a breathalyser to estimate blood alcohol concentration (BrAC). Within each alcohol consumption condition, alcohol expectancy was controlled, with half of participants in each condition told they had consumed alcohol and the other half told they had consumed tonic water. As reported in the literature, however, participants tend to believe they consumed alcohol rather than tonic when asked one week later whether they thought they consumed alcohol or tonic water (Flowe & Maltby, 2018). Therefore, while the present study will use alcohol expectancy in the analyses presented in this chapter to test the hypotheses, *Appendix K* conducts the analyses using participants beliefs (coded as 0 for those who believed they had tonic, and 1 for those who believed they had alcohol) about whether they consumed alcohol. Expectancy is being used in this chapter because it was fully crossed with alcohol consumption, resulting in equal cell sizes. What is more, it is not certain that participants' assessments one week after participation reflect their beliefs about alcohol consumption during the experiment.

Self-Blame Variables

Rape Attribution Questionnaire (RAQ). From the self-blame dataset (used for Flowe & Maltby, 2018), the present study used the data retrieved from the RAQ's (Frazier, 2003) characterological (CSB) and behavioural (BSB) subscales. These scales were also combined to compute an overall self-blame composite measure. For details concerning the

items on the scales, see above. For the present study, the CSB had questionable reliability (α= .67) whilst the BSB subscale had good reliability (α= .88). Combined, the RAQ achieved good reliability (α= .87).

Memory Recall Variables

Memory Accuracy. Memory accuracy measured the proportion of correct details remembered out of all of the details recalled. It was calculated by dividing the number of correct details by the total number of details (i.e., the sum of incorrect and correct details recalled). This was the method used by Flowe et al., (2019) for calculating memory accuracy, which followed previous research (e.g., Crossland et al., 2016; Gabbert et al., 2012). The memory data were collected during the free recall phase and a questioning phase of the simulated police interview. If the same details were recalled in both phases, they were only coded once. An overall memory accuracy variable was computed by calculating the total number of correct details recalled in the questioning phase, plus the total number of correct details recalled in the free recall phase, divided by the total number of details (correct and incorrect) recalled overall across both phases. Details concerning how the memory data were collected are described above.

Memory Completeness. The present study also measured completeness data, which was calculated by dividing the total number of correct details recalled, by the overall number of details that the participant could have recalled. This ranged from 214-263 details, depending on the scenario. Details concerning how the memory data were collected are provided above.

Traumatic Impact Variables

The present study analysed the IES-R data to assess post-traumatic impact, as this psychometric is considered a reliable and valid tool for assessing PTSD symptoms arising

from numerous types of traumatic events (Sundin & Horowitz, 2002). Further, the present study used data from the Autobiographical Memory Questionnaire (AMQ), which assesses the phenomenology of autobiographical memories.

Impact of Events Scale-Revised (IES-R). The IES-R consists of 22 items assessing post-traumatic stress disorder (PTSD) symptoms relating to a traumatic event. The questionnaire has three subscales assessing intrusions, avoidance, and hyperarousal. The intrusions subscale measures intrusive thoughts, nightmares, intrusive feelings and imagery, and includes items such as "*I had dreams about it*". The avoidance subscale measures the numbing of responsiveness and avoidance of feelings or situations and includes items such as "*I tried not to think about it*". The hyperarousal scale includes items related to anger, irritability, hypervigilance and difficulty concentrating, and includes items such as "*I had trouble concentrating*". All items are rated on a 5-point subscale whereby 0= *Not at all*, 1= *A little bit*, 2= *Moderately*, 3= *Quite a bit* and 4= *Extremely*. In relation to Cortina's (1993) description on acceptable alpha coefficient statistics, the reliability for the IES-R was observed to be adequate in the present study (α = .85), although this level of reliability is lower descriptively speaking than has been found in other research (α= .96; Creamer et al., 2003).

Autobiographical Memory Questionnaire (AMQ). The AMQ consists of 19 items measuring phenomenological qualities of autobiographical memories. The items in the AMQ are sensitive to the phenomenological experience of remembering (Rubin et al., 2008). The first seven items are assessed on a 7-point scale, from 1= *Not at all*, to 3= *Vaguely*, to 5= *Distinctly*, to 7= *As clearly as if it were happening right now*. These items considered the vividness and intensity of the memory in the participant's mind and included items such as "*As I remember the scenario, I can see it in my mind*", and "*As I remember the scenario, I can feel now the emotional intensity that I felt then*". These seven items were used for the

purpose of the study to specifically assess the vividness and intensity of the memory. There are a number of advantages that have been identified in relation to using the AMQ measure (Rubin et al., 2010). For example, in relation to the present study, variations of the AMQ have been used often with undergraduates (Rubin et al., 2003) and have been used as measures for PTSD and traumatic impact (Rubin et al., 2004; Rubin et al., 2008). Further, the variation of the measure used is theoretically motivated and can vary depending on the focus of the research (Rubin et al., 2008) and so it was appropriate to focus on the variables specific to the purpose of the study. The reliability for these seven items was founds to be adequate (α= .87) in the present study.

Results

Preliminary Analysis

The data were assessed to see if any women progressed to consensual sexual intercourse. If so, these were excluded from the analysis as the present study focuses on the traumatic nature of rape; however, none of the participants in the sample had consented to sexual intercourse, and therefore, all experienced the hypothetical rape.

To test whether the dating scenario affected the relevant dependent variables (memory accuracy, memory completeness, RAQ, IES and AMQ), the dependent variables were submitted to multivariate analysis of variance, entering scenario version as the between subjects' factors. No significant effects were obtained (Fs < .224, ps > .064); thus, this was not explored further.

The alcohol conditions were recoded for analysis. For the consumption condition, consumption of the tonic was coded as 0 and consumption of alcohol was coded as 1. For the expectancy condition, the expected tonic condition was coded as 0, whereas the expected alcohol condition was coded as 1.

Analysis Plan

Descriptive statistics including the minimum, maximum, range, mean and standard deviation were calculated for continuous variables (self-blame scales, PTSD variables and memory variables), whilst frequencies were calculated for categorical variables (alcohol consumption and expectancy conditions).

First, pairwise associations between the study variables were explored using point biserial correlations for the dichotomous variables (i.e., alcohol consumption and expectancy) and Pearson's correlation tests for continuous variables. With regards to effect sizes for correlations, findings were interpreted in relation to Cohen's (1992) conventions whereby .10 = small, .30 = medium and .50 = large.

In order to explore hypotheses 4 and 5, (i.e., memory recall and traumatic impact respectively), hierarchical multiple linear regression analyses were performed to examine the variance in the outcome variables of memory recall and PTSD explained by the independent variables. The independent variables to be considered for the two memory recall models included alcohol consumption, expectancy and the self-blame subscales. Hierarchical multiple linear regression was used to examine whether self-blame accounted for additional variation once alcohol consumption and expectancy were controlled (*see* Woltman et al., 2012 for a discussion of this approach). The alcohol consumption and expectancy variables were entered first into block one, due to previous findings supporting their relevance in relation to memory recall (Flowe et al., 2019). The self-blame variables were entered into block two.

For the two traumatic impact regression models, the plan was to enter into the analysis as independent variables the self-blame subscales, alcohol consumption, alcohol expectancy, and the memory recall variables. However, the alcohol consumption and

expectancy variables were excluded from this regression, owing to the correlation results indicating that the variables were not significantly correlated with the traumatic impact measures. The self-blame variables were entered into block one due to previous findings supporting their relevance in relation to overall traumatic impact and PTSD symptoms (see *Chapter 2*). The memory recall variables were entered into block two to assess whether they accounted for additional variation in traumatic impact scores. All variables for all four models were entered into the relevant blocks using forced entry, as this method is appropriate for theory testing and exploratory analysis (Studenmund & Cassidy, 1987).

Alpha was set at a value of $p = .05$ for all analyses in this study, and p values less than .05 were declared significant.

Descriptive and Frequency Statistics

Table 3 (above) depicts the frequency statistics for the conditions in the study, including the percentage of participants assigned to each condition. Table 4 depicts the descriptive statistics for variables included in the study, including the range of scores, mean scores and standard deviations.

Table 4

Descriptive Statistics

	Minimum	Maximum	Range	Mean (M)	Standard Deviation (SD)
AMQ 7-items	7	49	42	26.35	8.77
IES-r Total	3	8.41	5.41	4.83	1.31
Characterological Self-Blame	5	19	14	9.14	3.56
Behavioural Self-Blame	5	24	19	12.49	5.22
Self-blame total	10	38	28	21.63	8.04
Memory Completeness	0.00	0.30	0.30	0.13	0.06
Memory Accuracy	0.61	1.00	0.39	0.87	0.08
Alcohol Beliefs	0	1.00	1.00	0.57	0.50

Correlations (Exploring Hypotheses 1-3)

The zero-order correlation coefficients are presented in Table 5. In relation to the memory recall variables, expecting to have consumed alcohol was related to lower completeness scores (r = -.262; p < .05), as predicted in *Hypothesis 1*. Having lower levels of characterological self-blame was associated with higher memory completeness scores (r = -.352; p < .01) as predicted in *Hypothesis 2*. These findings demonstrate that expecting to have consumed alcohol and higher levels of self-blame is associated with recalling less information. No significant relationships were observed in relation to memory accuracy, as predicted in *Hypotheses 1-3*.

Table 5

Correlation Table

	Expectancy	Consumption	AMQ	IES	CSB	BSB	Self-blame	Accuracy	Completeness
Consumption	-.079								
AMQ	-.166	-.008							
IES-r	.025	.078	**.259***						
CSB	.228	.157	.119	**.358****					
BSB	-.038	.179	**.281***	**.415****	**.661****				
Self-blame	.076	.186	.236	**.428****	**.873****	**.943****			
Accuracy	-.218	.060	-.055	-.057	-.076	-.077	-.0.84		
Completeness	**-.262***	-.162	.238	-.062	**-.352****	-.055	-.191	**.288***	
Alcohol Beliefs	**.587****	**.431****	.005	.037	**.344****	.163	**.258***	-.155	**-.363****

Note: CSB = Characterological Self-Blame; BSB = Behavioural Self-Blame; IES-r = Impact of Events Sale- Revised; AMQ= Autobiographical Memory Questionnaire
* = Correlation is significant at the .05 level, two-tailed
** = Correlation is significant at the .01 level, two-tailed

In relation to the trauma variables, PTSD symptoms assessed with the IES-r was associated with increased levels of both characterological self-blame (r = .358; p < .01) and behavioural self-blame (r = .415 p < .01), in line with *Hypothesis 2.* Furthermore, more intense and vivid memories assessed with the AMQ were associated with higher levels of behavioural self-blame (r = .281; p < .05), as per *Hypothesis 2*. These findings suggest that self-blame is associated with higher levels of PTSD symptoms, with higher levels of behavioural self-blame associated with higher levels of perceived intensity and vividness of memory.

Contrary to *Hypothesis 1*, alcohol expectancy was not significantly related with any of the self-blame variables or trauma variables. Further, memory completeness was not observed to be related to either trauma variable, contrary to *Hypothesis 3.*

The two trauma variables (IES-r and AMQ) were positively correlated (r= .259, p <.05), as would be expected as they measure similar constructs. The characterological and behavioural self-blame variables were also positively correlated, (r= .661, p <.01), as has been found in previous research (Janoff-Bulman, 1979). Finally, memory accuracy and memory completeness were positively correlated (r= .288, p <.05).

With respect to participants beliefs about the beverage they had consumed, the pairwise associations across measures for alcohol beliefs were largely consistent with the results observed for alcohol expectancy. However, alcohol beliefs were significantly correlated with characterological self-blame (r =.344, p < .01) and overall self-blame (r = .258, p < .05), whereas expectancy was not (r = .228 and r = .076 respectively).

Regression Analysis (Exploring Hypotheses 4-5)

As previously described, hierarchical multiple linear regression was used to examine the unique contribution of self-blame in predicting memory completeness and accuracy (Table 6 and Table 7- *Hypothesis 4*) and to assess memory completeness in predicting traumatic impact (Table 8 and Table 9- *Hypothesis 5*). To assess for possible multi-collinearity, all variance inflation factor (VIF) values in the model were assessed to ensure they were below 10.0 (Bowerman & O'Connell, 1990; Myers, 1990). No multi-collinearity between variables was observed, with VIF values all being below 2.2. Tolerance levels were also all above 0.20, indicating no potential problems (Menard, 1995). A matrix scatterplot of all predictor variables was also plotted (see *Appendix B*), which detected no strong multi-collinearity.

Table 6 below provides a summary of the regression model for the memory outcome variable: *memory completeness*. The first block, which contained alcohol consumption and expectancy was only marginally non-significant, $F(2, 60) = 2.914$, $p = .062$. Alcohol

expectancy was observed to be a significant predictor in Block 1 (β = -.250, p = .047), but did not remain significant when Block 2 was added. After including all variables into the memory completeness regression model, only CSB remained a significant predictor (β = -.495, p <.01), which partially supports *Hypothesis 4*.

Table 6

Multiple Regression Analyses Predicting Memory Completeness Following Hypothetical Sexual Assault

	Model 1: Memory Completeness									
	Block 1					**Block 2**				
	B	**β**	**SE**	**t statistic**	***p* value**	**B**	**β**	**SE**	**t statistic**	***p* value**
Expectancy	-.030	-.250	.015	-.142	**.047***	-.015	-.128	.015	-1.029	.308
Consumption	-.017	-.142	.015	-1.151	.254	-.015	-.126	.014	-1.063	.292
CSB						-.008	-.495	.003	-3.00	**.004****
BSB						.003	.291	.002	1.795	.078
MODEL SUMMARY:			R^2= .089 F = 2.914, p = .062					R^2= .212 F = 3.909, **p = .007****		

Note: CSB = Characterological Self-Blame; BSB = Behavioural Self-Blame
*= p < .05
**= p < .01

Overall, the model exploring memory completeness scores was significant when both blocks were added (R^2= .212, F(4, 58)= 3.909, p < .01). This model explained 21.2% of the variance in memory completeness, and accounted for significantly more variation than when containing one block of variables, which only accounted for 8.9% of the variation in completeness. Despite only having one significant predictor, this suggests that the combination of variables influences memory completeness significantly and that the addition

of the characterological self-blame variable plays a significant role in predicting memory completeness scores.

Table 7 provides a summary of the regression model for the memory outcome variable: *memory accuracy*. All predictor variables entered into both Block 1 and Block 2 were found to be non-significant and overall models were non-significant. This further demonstrates how the variables are associated with memory completeness, rather than memory accuracy, supporting *Hypothesis 4*.

Table 7

Multiple Regression Analyses Predicting Memory Accuracy Following Hypothetical Sexual Assault

	Model 2: Memory Accuracy									
	Block 1					**Block 2**				
	B	**β**	**SE**	**t statistic**	***p* value**	**B**	**β**	**SE**	**t statistic**	***p* value**
Expectancy	-.036	-.223	.020	-1.757	.084	-.039	-.244	.022	-1.793	.078
Consumption	.012	.074	.020	.584	.561	.015	.091	.021	.699	.487
CSB						.001	.057	.004	.319	.751
BSB						-.002	-.143	.003	-.908	.422
MODEL SUMMARY:			R^2= .053 F = 1.654 p = .200					R^2= .065 F = .997 p = .417		

Note: CSB = Characterological Self-Blame; BSB = Behavioural Self-Blame
*= $p < .05$
**= $p < .01$

Table 8 provides a summary of the regression models for the traumatic impact variable assessing PTSD symptoms: *IES-r*. In Block 1, BSB was found to be a significant predictor (β = .319, $p < .05$) and the model was found to be significant (R^2= .189, $F(2, 60)$= 6.856, p = .002), supporting *Hypothesis 5*. However, in Block 2, BSB did not remain a

significant predictor of traumatic impact assessed with the IES-r, and no other variables were found to be significant. Despite this, the overall model remained significant (R^2= .189, F(4, 58)= 3.321, p = .016), supporting *Hypothesis 5*. The models did not differ with regards to the variance of IES-r scores explained (18.9%), suggesting that adding the additional memory variables in Block 2 did not improve the model. This is further supported by the F test findings, with the F statistic being higher and p value being lower when only one block of variables are added compared to when both blocks are added, indicating a more significant model. This does not support *Hypothesis 5*.

Table 8

Multiple Regression Analyses Predicting IES-r Outcomes Following Hypothetical Sexual Assault

	Model 3: IES-r									
	Block 1					**Block 2**				
	B	**β**	**SE**	**t statistic**	***p* value**	**B**	**β**	**SE**	**t statistic**	***p* value**
CSB	.057	.152	.058	.980	.331	.056	.150	.065	.855	.396
BSB	.081	.319	.039	2.057	**.044***	.081	.319	.042	1.929	.059
Memory Completeness						-.065	-.003	3.122	-.021	.983
Memory Accuracy						-.324	-.020	2.043	-.159	.874
MODEL SUMMARY:			R^2= .189 F = 6.856, **p = .002****					R^2= .189 F = 3.321 **p = .016***		

Note: CSB = Characterological Self-Blame; BSB = Behavioural Self-Blame; IES-r = Impact of Events Sale- Revised
*= p <.05.
**= p <.01

Table 9 provides a summary of the regression models for the traumatic impact variable assessing the vividness and intensity of the memory: *AMQ*. In Block 1, BSB was observed to be a significant predictor of AMQ scores (β = .353, p <.05), supporting

Hypothesis 5. However, the model with one block of variables was non-significant and only explained 8.3% of the variance in AMQ scores. BSB did not remain a significant predictor following the addition of the memory variables in Block 2. With all variables added to the model, Memory Completeness was observed to be the only significant predictor (β = .336, *p* <.05), partially supporting *Hypothesis 5*. However, the final model containing both blocks was found to be significant (R^2= .168, *F*(4, 58)= 2.887, *p*= .030), with all included variables explaining 16.8% of the variance in AMQ scores. This demonstrated how including the memory variables improved the model. This can be seen to support *Hypothesis 5*.

Table 9

Multiple Regression Analyses Predicting AMQ Outcomes Following Hypothetical Sexual Assault

	Model 4: AMQ									
	Block 1					**Block 2**				
	B	**β**	**SE**	**t statistic**	***p* value**	**B**	**β**	**SE**	**t statistic**	***p* value**
CSB	-.307	-.124	.409	-.751	.455	.141	.057	.439	.321	.750
BSB	.596	.353	.278	2.140	**.037***	.390	.231	.283	1.380	.173
Memory Completeness						50.611	.336	21.046	2.405	**.019***
Memory Accuracy						-14.049	-.130	13.773	-1.020	.312
MODEL SUMMARY:			*R^2= .083* *F* = 2.659, *p* = .078					*R^2= .168* *F* = 2.887 ***p* = .030***		

Note: CSB = Characterological Self-Blame; BSB = Behavioural Self-Blame; AMQ= Autobiographical Memory Questionnaire
*= *p* <.05.
**= *p* <.01

Discussion

The present study aimed to explore the roles of alcohol and self-blame on predicting memory completeness, and the roles of alcohol, self-blame and memory completeness on predicting traumatic impact. The relationships between all variables were examined using correlational analysis, and multiple linear regressions were used to explore the variables that predict memory recall and traumatic impact variables.

To recap the results, *Hypothesis 1* posited that alcohol expectancy is negatively related to memory completeness, and positively related to self-blame and traumatic impact. The alcohol expectancy manipulation was found to be negatively related to overall memory completeness but was not found to be significantly positively related to either the self-blame variables or traumatic impact variables. However, the participant's alcohol beliefs were also examined, which were significantly positively related to self-blame. Thus, overall, the first hypothesis was only partially supported. *Hypothesis 2* posited that self-blame is positively related to traumatic impact and negatively related to memory completeness. Self-blame was found to be positively related to PTSD symptoms, with IES-r scores positively related to both CSB and BSB. BSB was also related to more intense and vivid memories of the hypothetical rape, assessed with the AMQ. In relation to memory completeness, CSB was negatively related, supporting *Hypothesis 2*. According to *Hypothesis 3*, memory completeness is negatively associated with traumatic impact. This hypothesis was not supported. *Hypothesis 4* posited that alcohol expectancy and self-blame predict memory completeness. Alcohol expectancy predicted memory completeness in the first block of the regression model, but was non-significant when the blame variables were added. CSB predicted memory completeness and the overall model was significant, thus partially supporting *Hypothesis 4*. This was also the case when using alcohol beliefs as the expectancy measure (*Appendix K*). *Hypothesis 5* predicted that alcohol expectancy, self-blame and memory completeness

predicts traumatic impact. The alcohol variables were excluded from the regression analyses based on the non-significant correlation findings. BSB was a significant predictor of PTSD symptoms in the first block of the regression but became non-significant when the memory variables were added. The memory variables did not significantly predict PTSD symptoms; however, the overall model was significant, offering partial support for *Hypothesis 5*. BSB was also a significant predictor of the vividness and intensity of the memory of the hypothetical rape in the first block of the regression but became non-significant when the memory variables were added. Memory completeness significantly predicted the vividness and intensity of the memory of the hypothetical rape, offering support to this hypothesis.

The implications of alcohol on memory and self-blame

The present study explored the implications of alcohol on memory recall. Previous research has considered the effects of alcohol on attention allocation, memory consolidation and memory recall. The Alcohol Myopia Theory (Josephs & Steele, 1990; Steele & Josephs, 1990) framework posits that the consumption of alcohol influences attention to central cues over peripheral details, influencing less complete memories of events. The notion that alcohol consumption may decrease the number of details recalled has been replicated in research. A meta-analysis exploring the effects of alcohol intoxication on memory recall has supported the notion that alcohol intoxication significantly decreases the number of correct details recalled, but does not increase the number of incorrect details recalled (Jores et al., 2019), affecting recall completeness. However, the meta-analysis could not take into consideration the role of alcohol expectancy. The present study did not observe alcohol consumption to have any effect on the number of details remembered, thus may be seen to contrast the meta-analysis. However, the present study demonstrates the important role of expectancy effects, and how this can decrease the number of details recalled. This may account for the contrast in findings between the presents study and the meta-analysis in relation to alcohol consumption.

In relation to expectancy effects, it has been suggested that the "I don't know" responses are provided in order to minimise errors, due to the perceived negative impact that alcohol can have on memory. Flowe et al.'s (2019) study found that "I don't know" responses are influenced by the belief that one has consumed alcohol, rather than the actual consumption. In the present study, alcohol expectancy was found to negatively relate to memory completeness, meaning that when an individual believed they had consumed alcohol, they recalled less information of the hypothetical rape. This was also replicated with alcohol beliefs in *Appendix K*. These expectancy effects support the idea that details may be withheld in order to minimise potential errors. Whilst details may be withheld and recall completeness may be negatively affected, many findings demonstrate that this does not influence the accuracy of recall. Findings have demonstrated that alcohol, or the expectancy of consuming alcohol, may decrease the number of correct details recalled, but does not increase the number of incorrect details reported, meaning that the overall accuracy of recall is not affected (Flowe et al., 2019, Jores et al., 2019, Schreiber Compo et al., 2011). The present did not observe neither alcohol consumption nor alcohol expectancy to influence the accuracy of recall. This therefore supports the idea that alcohol expectancy may impact the proportion of details recalled, rather than the number of errors made.

The present study also considered the relationship between alcohol and self-blame attributions. Ehlers and Clark's (2000) model of PTSD suggests that characteristics of the trauma and the cognitive processing during the trauma influence the individual's subsequent trauma appraisals. This is supported by Flowe and Maltby (2018), who found that participants who believed they had consumed alcohol when engaging in a hypothetical rape scenario had higher levels of self-blame for the rape than those who believed they had consumed tonic. The present study examined this relationship both in relation to the expectancy condition that participants were assigned to, and in relation to the participant'

alcohol beliefs. Whilst these measures provoked mostly similar findings in relation to memory, different results were observed in relation to self-blame. The alcohol expectancy condition manipulated by the researcher did not affect self-blame appraisals, whilst the participants' alcohol beliefs (e.g., believing they had consumed alcohol) increased levels of self-blame. This may suggest that the processing of the belief that one has consumed alcohol can influence self-blame appraisals more than the actual characteristics of the event (such as what the person is told).

The implications of memory on traumatic impact

The present study also sought to examine how the nature of an individual's trauma memory is related to the impact of trauma, specifically intrusive memories and reexperiences of aspects of the event. Ehlers and Clark's (2000) model for PTSD suggests that individuals who have experienced trauma often have difficulty with intentionally retrieving a complete memory of the event, with recall being fragmented and disorganized. Whilst *intentional* recall may be impaired, individuals are also observed to experience involuntary arousal when thinking about the trauma, influencing negative affect. This relationship between incomplete intentional recall and arousal symptoms relating to the memory was observed in the present study. Memory completeness was observed to predict the vividness and intensity of the memory and related arousal symptoms, supporting Ehlers and Clark's (2000) model. Whilst Ehlers and Clark's (2000) model reflects pathological PTSD, the findings from the present study may suggest that the relationship between memory recall and memory arousal can be observed when arousal levels do not meet the threshold for PTSD.

However, in the present study, memory recall was not observed to be related to PTSD symptoms assessed by the IES-r. This may be considered to contradict the previous findings described above and does not support Ehlers and Clark's (2000) model. In the present study, many individuals scored *0=Not at all* for most items on the IES, indicating that

the hypothetical scenario had limited impact on participants. Given the experimental nature of the study and hypothetical rape, traumatic impact would be expected to be significantly lower compared to if the experience had occurred in real life. This is likely to impact the relationship and may explain the lack of relationship observed.

The implications of self-blame on traumatic impact and memory

The present study explored the implications of self-blame on both traumatic impact and memory recall. With regards to traumatic impact, previous findings have found both characterological (CSB) and behavioural self-blame (BSB) are associated with higher levels of distress and PTSD symptoms (Hamrick & Owens, 2019; Najdowski & Ullman, 2009). This was supported in the present study, with both types of self-blame being found to positively relate to traumatic impact assessed by the IES-r. In other words, higher levels of self-blame related to higher levels of PTSD symptoms. Not only does this reflect previous research findings (see *Chapter 2* for a detailed overview), but can also be observed to support Ehlers and Clark's (2000) model of PTSD. The model suggests that an individual's negative appraisals of the event (such as whether they perceive themselves as accountable) influences PTSD symptoms. The present study supports this notion, finding PTSD symptoms to relate to an individual's negative appraisals associated with one's character (CSB) and one's behaviours and decisions during the event (BSB).

Whilst overall PTSD symptoms were related to both types of self-blame, the present study found experiences of memory in relation to vividness, intensity and arousal to be significantly and positively related to BSB, but not CSB. This would suggest that memories of the rape feel stronger and more emotional when an individual blames their behaviour rather tham their character. This finding may be seen to support the self-regulation perseveration theory (Carver & Scheier, 1981), in which an individual is said to engage in excessive self-focus following a traumatic event, leading to comparisons with perceived

salient behavioural standards. This increased self-focus following a negative event has been previously associated with intensified negative affect (Pyszczynski & Greenberg, 1987). This may indicate that enhanced critique of one's behaviour during the event (and elevated levels of BSB) can increase arousal symptoms and negative affect when remembering the traumatic event.

The present study also examined the relationship between self-blame and memory recall. Negative self-blame appraisals were observed to be related to the memory of the trauma. In particular, higher levels of characterological self-blame were related to fewer details of the hypothetical rape scenario being recalled. In line with Ehlers and Clark's (2000) model, this would suggest that participant's selectively recalled details of the trauma that were congruent with their characterological self-blame appraisals. For example, if a participant believed the rape to have occurred because they are a reckless and irresponsible person, then their narrative of the event may be seen to support these beliefs and details that contradict these appraisals would be neglected during recall, limiting the overall completeness of their recollection. Further research exploring the content of a victim's recall would be needed to determine whether this is the case. In line with the model and self-regulation perseveration theory (Carver & Scheier, 1981), it may have been anticipated that BSB appraisals would also be associated with memory recall completeness. However, this was not observed to be the case. Ehlers and Clark's (2000) model suggests that the cognitive processing of the traumatic event can threaten the individual's view of themselves, which in turn can inform their appraisals. This could suggest that when an individual processes that their behaviours were the reason for the traumatic event taking place, this could have wider implications on the view of their character. In turn, this may increase their negative view of self and lead to higher attributions of blame on their character, subsequently informing their memory recall.

Applied implications

The findings from the present study have some useful implications with regards to victim statements. The study supports the notion that the actual consumption of alcohol predicts neither memory accuracy nor completeness following a rape case. Given that a victim's testimony is often relied upon as evidence in rape cases (Lees, 2002), and that many victims of rape are intoxicated (Brecklin & Ullman, 2010; Palmer et al., 2013), promoting these findings to jurors and law experts could be important in order to achieve justice and reliable outcomes. For example, a survey of psychology and law experts found that 90% of experts agreed that alcohol impairs eyewitness performance and 95% felt it to be common sense that memory is impaired by alcohol (Kassin et al., 2001). Counteracting these beliefs with reliable evidence may be helpful in ensuring that victims are supported by their criminal justice system. However, this may need to be done cautiously, as it is unclear whether higher doses of alcohol would have more detrimental effects on recall. Whilst this is something to consider, Van Oorsouw et al. (2015) tested participants in a real-life context who had consumed higher doses of alcohol (mean BAC = 0.16 in the high dose group) and though differences in the proportion of recall were observed (with less complete memories for more intoxicated participants), there were no differences in relation to the number of recall errors made.

Alternatively, the findings highlight the role of alcohol expectancy in completeness of recall, and how the perceived impact that alcohol may have on the reliability of memory may result in less details being recalled by the victim. In highlighting the research findings relating to alcohol consumption and memory, individuals may have more confidence in their recollection and may be less likely to withhold details, influencing more complete accounts of events and an overall more complete investigation.

Similarly, the findings from the presents study highlight the role that self-blame attributions have in completeness of recall. The findings suggest that individuals provide less information when they blame themselves. The findings may indicate that individuals who blame themselves also elect to withhold details during recall, due to concerns of being judged or receiving negative responses. This explanation may be supported by research that has explored the relationship between self-blame and disclosure, findings that CSB reduces the likelihood of disclosing the assault to others (Starzynski et al., 2007). This idea may be further supported by research finding a relationship between self-blame and increased negative social reactions (Ullman and Najdowski, 2011). If the fear of negative reactions impacts a victims' disclosure and subsequent recall completeness when providing a statement in relation to the rape, then this could have negative repercussions on case outcomes. This highlights the need to not only support victims during the investigation process in order to improve their testimony, but to also limit stigmatisation and negative reactions from others. In general, this may highlight wider goals concerning the need to address a misogynistic and victim-blaming society.

The findings that both alcohol expectancy and self-blame limit the completeness of recall following rape may suggest that underlying rape myth acceptance on the part of the victim contributes to less complete memories. For example, Norris and Cubbins (1992) identified that research participants often perceive a 'real rape' to be one in which the victim has not consumed alcohol and in which the perpetrator is a stranger. When Heath et al. (2011) explored the associations between rape myth acceptance (RMA) and reporting of rape using thematic analysis, they found that victims' narratives often included a variety of rape myths that involved blaming themselves for the rape. This involvement in rape myth acceptance, particularly when having consumed alcohol, may therefore account for the

limited completeness in recall. This is something that could be explored in more detail in future research.

Methodological limitations to consider

Despite the useful implications, the study presents with some limitations that should be considered. These methodological limitations can be considered to guide future research in this field. Firstly, the small sample (*N*= 63) focusing on female undergraduates limits the generalisability of findings. There is little known concerning how the findings may apply to different samples, such as different cultures, sexualities, ages or gender. Furthermore, laboratory research has limitations concerning its applicability to real life. Responding to a hypothetical rape scenario may differ from how individuals would respond to the scenario in real life. In real life, individuals may also consume larger quantities of alcohol, which could influence different effects. For example, Bisby et al (2010) identified an inverted U-shaped relationship between the amount of alcohol consumed and the experience of intrusions, with lower amounts of alcohol increasing the number of intrusions experienced. This suggests that alcohol has differing effects on PTSD symptoms depending on the amount consumed, which could also impact on other outcomes including self-blame. In addition to this, in real life scenarios individuals would generally be aware when they have consumed alcohol and so expectancy and consumption effects would be interrelated. Furthermore, though the hypothetical rape scenario administered via the participant choice paradigm can influence negative affect (Takarangi et al., 2013), the simulation will be considerably different to the experience of rape. The hypothetical scenario was designed to be as interactive as possible with this paradigm and was based upon real-life cases of rape (Flowe et al., 2007) in order to try and increase the psychological realism of the event (see Mook, 1983). Despite this, the experience of rape in reality would lead to higher levels of traumatic impact and

consequentially, some of the conclusions drawn from this study should be interpreted with caution.

Conclusions

In sum, when individuals believe they have consumed alcohol prior to sexual trauma and blame their personality and character for the sexual trauma taking place, their recall of the trauma is less complete. In particular, this type of self-blame is a predictor of how complete an individual's memory will be. Further, when an individual blames their character for the occurrence of sexual trauma, the individual experiences more PTSD symptoms. The results highlight the pinnacle role of self-blame in the aftermath of sexual trauma with regards to how it impacts on both memory completeness of the event and PTSD symptoms, demonstrating how important it is to address self-blame appraisals in intervention.

CHAPTER 4:

CRITIQUE OF A PSYCHOMETRIC ASSESSMENT: THE RAPE ATTRIBUTION QUESTIONNAIRE (RAQ; FRAZIER, 2003)

Introduction

Assessing Attributions

It has been argued that humans are naïve psychologists trying to make sense of the world (Heider, 1958). In attempting to make sense of the world, people can incorrectly perceive many relationships to have a cause and effect. Heider (1958) suggested two factors that influence how we may make sense of such relationships: dispositional attribution (internal) and situational attribution (external). In other words, we may attribute the cause of a behaviour to internal characteristics, such as personality, or external factors, such as situational or societal features. In making such attributions, it enables us to make sense of the behaviours and events we experience.

Researchers over the years have considered attributions of behaviour in a variety of contexts, such as in interpersonal relationships (Fincham et al., 1990), sport (McAuley & Duncan, 1990) and health behaviours (Lewis & Daltroy, 1990). The desire to measure attributions has influenced the development of various theoretical models and scales. Some of the original theoretical models that have considered the methods of personal attribution include learned helplessness (Abramson et al., 1978) and Attribution Theory (Weiner, 1974).

Quinless and Nelson (1988) established a 20-item objective measure to measure Learned Helplessness; the Learned Helplessness Scale (LHS). The scale assesses the attributions that people give for positive and negative outcomes and how this subsequently impacts their expectations for future outcomes, using three dimensions including internal/external, stable/unstable, and global/specific. Alternatively, in association with Attribution Theory (Weiner, 1974), Russell (1982) developed the Causal Dimension Scale (CDS) to assess attribution style, which was then adapted to improve psychometric properties (CDS II; Mcauley et al., 1992). The scale assessed the three dimensions of attribution theory,

including locus of causality, stability, and control. Whilst these dimensions are similar to those within Learned Helplessness, one of the key differences is with regards to control. Control can be considered to underpin the Learned Helplessness model, as it is built upon the assumption that the individual has totally lost their sense of control. Alternatively, Attribution Theory does not assume this and so uses a control scale to assess this.

Whilst the underlying theories may be considered useful, the scales and measures that have been established have been fundamentally flawed theoretically, psychometrically and operationally (Fernandez-Ballesteros, 2002). For example, in terms of a theoretical flaw, the CDS-II scale suggests that that there is only one way in which we may attribute blame to the self. Janoff-Bulman (1979) suggested that treating 'self-blame' as one entity may be too simplistic and found that individuals can attribute blame to static factors such as personality traits, and dynamic behaviours during the event. These were conceptualised as characterological self-blame (CSB) and behavioural self-blame (BSB) respectively.

Assessing Attributions in Sexual Victimisation and the Development of the RAQ

A development within attribution research was the consideration of attribution scales specific to sexual victimisation. One of the first measures developed to assess a victim's own attributions was by Meyer and Taylor (1986). The initial scale consisted of 24 statements that provided explanations as to why the rape happened, which were rated on a 5-point Likert scale. Following principal-components factor analysis, three significant factors emerged (Poor Judgment, Societal Factors and Victim Type) and 15 items remained on the scale. 'Poor Judgment' consisted of five statements which appeared to measure of the extent to which a woman blamed her behaviours, abilities, and attitudes for her rape. Whilst Meyer and Taylor (1986) suggested that this scale was similar to Janoff-Bulman's (1979) concept of BSB, Frazier (2003) criticised the scale; suggesting that their measure actually combined BSB and CSB and thus may overestimate the relation between BSB and distress. This is

because the scale not only addressed dynamic factors such as behaviour, but also static factors such as abilities, which are associated with the concept of CSB.

Whilst Frazier (2003) later addressed this issue with the RAQ, initially in 1990 there were also attempts to specifically assess BSB and CSB. Frazier (1990) utilised the 15 items that Meyer and Taylor (1986) established, but in addition, added two specific questions to assess these concepts, including "*How much do you blame things you did before the rape (e.g., walking alone at night)*?" for BSB, and "*How much do you blame things about your personality (e.g., being too trusting) that you feel you can't change*?" for CSB. Ratings were made on 5-point scales, from *Not at all* (1) to *Completely blame* (5). Individual questions were also added to assess the extent to which the past rape could have been avoided, and the extent to which future rapes could be avoided. Whilst these developments attempted to address the individual concepts, using single item scales to assess constructs is considered less reliable; with multiple-item scales being preferred (Diamantopoulos et al., 2012).

Similarly, Frazier and Schauben, (1994) utilised six 5-point Likert scales to assess attributions and control beliefs about the rape. These six individual scales assessed BSB, CSB, past control, future control, likelihood of being raped again, and frequency of thinking about why the rape occurred. As before, limitations related to the fact that each attribution and control belief were assessed via single-item measures. Further, external attributions were not included in the measure.

A significant development in the scale occurred when Frazier (2000) included multiple items to assess each construct. BSB, CSB and external blame regarding the cause of rape were each assessed with 7-item Likert scales. Eleven members of the Violence and Victimization Task Force of Division 35 (Psychology of Women) of the American Psychological Association assessed the items and deemed them to be good measures of the constructs. Thus, whilst holding similarities to the previous attribution measures used in

Frazier (1990) and Frazier and Schauben, (1994), the measure was improved with regards to both validity and reliability.

This final measure described was named the Rape Attribution Questionnaire (RAQ) and was established for Frazier's (2003) longitudinal study investigating perceived control and distress after rape. This scale addressed several identified limitations with previous scales. For example, the scale rectified the issue of combining BSB and CSB in a scale, as done by Meyer and Taylor (1986). Also, the RAQ had an additional scale for assessing attribution of blame to the rapist, something that had not been specifically measured previously. Further, the RAQ included specific scales to assess control over the recovery process; something that has been deemed an important factor when reviewing stressors following rape (Frazier, 2003). Finally, a multiple-item scale was developed to measure future control, when previous research has tended to assess this construct with one or two-item scales.

The RAQ has subsequently been used widely in research assessing attributions of causality in victims of rape. This critique will thus consider the Rape Attribution Questionnaire (RAQ; Frazier, 2003) with regards to its psychometric properties and its application to real survivors and experimental victims of hypothetical rape.

Overview of the RAQ

Frazier (2003) developed the RAQ for the purpose of assessing perceived rape causality in female sexual assault survivors. Items were developed to assess the attributions of five possible rape causes: BSB, CSB, blaming the rapist, blaming society, and blaming chance. However, in the study, only the BSB and rapist blame subscales were utilised. Initially, ten items were written for each rape cause and were sent to thirteen members of the Violence and Victimization Task Force of Division 35 (Psychology of Women) of the

American Psychological Association. They were provided with a description of each of the five subscales and were asked to rate the items with regards to how realistic, unambiguous and applicable they were to apply to different situations. Eleven of the experts responded and their answers influenced the five items that were selected to assess each construct.

The five subscales each consist of five items (total of 25 items). Each item is assessed on a 5-point Likert scale from 1 (never) to 5 (very often) using the following stem: "*How often have you thought: I was assaulted because...*". The scores on each subscale are then added together, with scores ranging from 5 to 25 and higher scores being indicative of a higher attribution for that scale. The RAQ is administered as a self-report questionnaire which can be completed in person or online and takes approximately 15 minutes to complete. An overview and sample items for each subscale is provided below:

CSB subscale

This scale assesses the extent to which victims blame their character and personality for the rape taking place. A sample item includes: "*I am just the victim type*".

BSB subscale

This scale assesses the extent to which victims blame their behaviours and decision-making at the time of the rape as a reason for it taking place. A sample item includes: *"I used poor judgment*".

Blaming the Rapist subscale

This scale assesses the extent to which victims blame the rapist for the rape taking place. A sample item includes: "*The rapist wanted to feel power over someone*".

Blaming Society subscale

This scale assesses the extent to which victims blame societal values (e.g. misogyny) for the rape taking place. A sample item includes: "*Men need to feel power over women*".

Blaming Chance subscale

This scale assesses the extent that victims attribute chance for the rape taking place. A sample item includes: "*It was bad luck*".

The RAQ also assesses three aspects of control: Present Control, Future Control, and the Perceived Likelihood of Future Assaults. Eight or nine items were developed to assess each construct, and five items were chosen on the basis of the same experts' ratings. Items are rated on a 5-point scale (1= *strongly disagree* to 5= *strongly agree*). Additionally, one-item criterion measures of each construct were included on the questionnaire. These items are used to determine how effectively the scale items reflect the construct being measures. Scale scores were observed to be highly correlated with these criterion items when the scale was tested across four separate time periods (Frazier, 2003; *mean rs*= .64 to .69).

An overview and sample items for each subscale is provided below:

Present Control

This scale assesses control over the recovery process. A sample item includes: "*I don't feel there is much I can do to help myself feel better".* This particular item is reverse scored. The criterion measure stated: "*To what extent do you have control over your recovery process*?"

Future Control

This scale assesses whether an individual takes precautions to try to avoid future victimization. A sample item includes: "*I have changed certain behaviours to try to avoid being assaulted again".* The criterion measure stated: "*To what extent have you changed your behaviours to avoid being assaulted again*?"

Perceived Likelihood of Future Assaults

This scale assesses the beliefs around the likelihood of future assaults. A sample item includes: "*It is not very likely that I will be assaulted again*". The criterion measure stated: "*How likely is it that you will be assaulted again*?".

Characteristics of the RAQ

Level of Measurement

The RAQ's level of measurement is ordinal level data, assessed via a Likert scale to measure the extent to which participants' agreed with the statements on each subscale. Ordinal data can be ranked, and an awareness of scores being 'greater than' or 'less than' is known, however, the difference between rankings is not meaningful (Boone & Boone, 2012). Whilst the data is ordinal, it is common for Likert scales to be treated at interval level in analysis (Boone & Boone, 2012), which makes it more useful to establish numerical differences and perform statistical analysis (Field, 2003).

Self-Report

As previously acknowledged, the RAQ is a self-report measure that can be administered in person or online. Self-report data come directly from the participant and have generally been found to be accurate, so long as the participants feel anonymity will be maintained and reprisal will not occur (Brener, Billy & Grady, 2003). This may be particularly relevant when exploring sensitive topics such as rape. Further, achieving a greater sense of anonymity is easier to achieve through a questionnaire as opposed to an interview. Another advantage of self-report measures is that they are quick, easy and cheap to administer, particularly in comparison to interviews.

However, whilst collecting information directly from the participant is often convenient and accurate, there is also the potential for response bias. Response bias refers to

the tendency for participants to respond inaccurately to questions. This may be to portray themselves in a socially-desirable light (e.g. to portray that they had no role in the cause of the rape, even if they believe they did) or to portray themselves more negatively to potentially enable them more access to support (e.g. portraying that they believe they were the sole cause of the rape, even if they do not believe this to be the case). However, social desirability is considered less problematic with Likert scales when compared to dichotomous yes/no responses (Sorenson & Taylor, 2005), thus may be less of an issue when considering the RAQ.

Other causes of response bias may come from unfamiliar content, fatigue or faulty recall (Glen, 2015). The likelihood of response bias occurring with the RAQ due to participants being unfamiliar with the content is low, particularly as the items were supported by an expert panel to conceptualise each scale. The RAQ is also relatively short, and so fatigue is unlikely. However, there may be some uncertainty with regards to participants responses being biased because of faulty recall, due to the impact that traumatic experiences such as rape can have on memory recall. Further, research has indicated that various individual differences may impact on responses. For example, McCallum and Peterson (2017) found differences between black and white participants with regards to reporting their sexual victimisation, indicating that race may impact on how individuals discuss their sexual trauma. Thus, considering the sample characteristics may be important when determining the accuracy of their self-report.

Finally, the impact of demand characteristics should be considered in self-report measures, that is, whether a participant responds in a way that purposefully supports or opposes the study hypotheses. For example, Flowe and Maltby (2018) explored the relationship between self-blame and alcohol consumption following exposure to a hypothetical rape scenario. When participants expected that they had consumed alcohol, they

may have felt more inclined to indicate higher self-blame scores on the RAQ. Such demand characteristics can impair the reliability and validity of the tool, thus should be considered when administering and evaluating scores.

Psychometric Properties of the RAQ

The RAQ has been utilised in many studies that have aimed to assess blame attributions in sexual victimisation. It has been applied to different populations including British (e.g. Flowe & Maltby, 2018), American (e.g. Frazier, 2003), Spanish (e.g. de la Cruz et al., 2015), Asian American (e.g. Tsong & Ullman, 2018) and African American (e.g. Long et al., 2007); suggesting good generalisability. The tool has also been utilised with victims of sexual trauma (Frazier, 2003) and those exposed to hypothetical rape scenarios (Flowe & Maltby, 2018).

However, since the development of the RAQ, Breitenbecher (2006) developed an additional scale, namely the Sexual Victimisation Attributions Measure (SVAM). This scale includes the initial items from both Meyer and Taylor's (1986) scale and Frazier's (1990) scale, plus additional items. The SVAM considers CSB, BSB, perpetrator blame, situational blame and societal blame; thus, is not too dissimilar to the RAQ. However, the scale has not been as widely used in research when assessing victim attributions of rape causality. Since the development of this newer scale, the RAQ has continued to be the preferred measure used in research. Thus, the psychometric properties of the RAQ will now be considered, to determine whether it is a reliable and valid measure that should continue to be selected in future research.

Reliability

Internal Reliability

Internal reliability refers to the extent to which items within the test are measuring the same construct (Hays & Revicki, 2005). Internal reliability is generally measured with Cronbach's alpha, with a score of > α= 0.7 typically being indicative of good reliability (Kline, 1999). Whilst scores above α= 0.7 are positive, a reliability that is too high may indicate that items within the scale are redundant (Streiner, 2003), which is undesirable. Further, high reliability does not necessarily indicate high validity, as consistent, reliable results can occur even if the tool does not assess the construct accurately (Kline, 2015).

Frazier's (2003) study was carried out with 171 sexual assault survivors who were seen over a period of 4 years, with the relevant questionnaires (including the RAQ) being mailed to them to complete. The attribution subscales used in the study included the BSB and rapist subscale. Both scales had average alpha coefficients of α= 0.87 across the four time periods, indicating good reliability. When the scale was initially developed, the scale was administered to a sample of 135 nonrecent rape survivors though a phone survey and demonstrated similar levels of reliability (α= 0.87 and α= 0.88 for BSB and rapist blame respectively; Frazier, 2002). In addition to the attribution subscales, the control scales were also administered in Frazier's (2003) study. In adding the criterion items to the control scales, the internal consistencies were seen to improve, with mean alphas of α= 0.81 (control over recovery), α= 0.70 (future control), and α= 0.83 (future likelihood); demonstrating good levels. This indicates good generalisability, particularly with regards to the way the RAQ is administered.

Other studies have also tested for internal reliability in the RAQ across different female samples, with most studies using the CSB and BSB subscales. Flowe and Maltby (2018) utilised these subscales with females from an English university campus who were subject to a hypothetical rape scenario as opposed to real life victimisation. Cronbach alphas were α= 0.78 for BSB and α= 0.75 for CSB, indicating acceptable levels but lower than the

original studies. However, in the study they then combined the two subscales and yielded a level of α= 0.87. Tsong and Ullman (2018) used the RAQ with Asian American sexual assault survivors and also combined the BSB and CSB scales; finding an internal consistency of α= 0.88. De la Cruz et al. (2015) utilised the RAQ with Spanish sexual assault victims and demonstrated a Cronbach alpha of α= 0.68; which may be considered below adequate level. One potential reason for this is the translation of items, with the language perhaps not reflecting the true construct when translated.

Overall, the studies discussed highlight some of the application to different samples, however, the majority of studies that used the RAQ were found to be in the United States and tended to report the initial reliability coefficients identified in Frazier (2002) and Frazier (2003). There is limited research exploring the reliability of the RAQ in non-westernised societies, in which sexual assault may be appraised and treated differently. However, most studies reported good levels of reliability.

Test-retest Reliability

Test–retest reliability provides an estimate of the correlation between scores on a test administered twice over a given time interval. High test-retest reliability could show little change to the Cronbach alpha overtime. There is no specific timeframe suggested to assess test-retest reliability; ranging from days (Comprehensive Trail Making Test; Reynolds 2002), to months (Paced Auditory Serial Addition Test; Sjögren et al., 2000) and even years (Woodcock-Johnson III Tests of Cognitive Abilities (WJIII- COG), McGrew & Woodcock 2001). On average, most standardised tests are seen to provide reliability information for intervals ranging from 2 to 12 weeks. Nevertheless, the timeframe needs to be considered, as repeating the tool too soon can result in practice effects. In general, a minimal level of α= 0.7 should be achieved (Guilford, 1956).

Test-retest reliability can be challenging to assess when examining constructs that are dynamic and subject to change overtime. With regards to the RAQ, there could be changes if individuals are subject to intervention that focuses on altering their appraisals of the rape. However, Frazier (2003) explored test-retest reliability over a period of 4 months (2 months and 6 months post-assault) for the BSB and rapist blame subscales, finding levels of α= 0.64 for BSB and α= 0.79 for rapist blame. This indicates adequate levels for rapist blame, however, below adequate levels for BSB. For the control subscales, levels were found to be α= 0.69 (control over recovery), α= 0.52 (future control), and α= 0.72 (future likelihood), indicating generally inadequate levels. No test-retest coefficients were provided for the initial study (Frazier, 2002) due to slight revision of the scales.

There is limited research considering test-retest reliability with other populations, however, from the available data the scale can be assumed to be between below-adequate and adequate in reliability. The inadequacy could reflect the fact that a victim's attributions of their rape causality may not be stable overtime.

Other Reliability Considerations

In addition to internal reliability and test-retest reliability, there are other factors associated with reliability that should be considered, including the item structure, the endorsement of the test and the number of items to assess a construct. With regards to item structure, scoring items between 1 and 5 means that the test does not have a true zero and thus has an inflated mean score; which may increase the likelihood of Type 1 error (Louangrath & Sutanapong, 2018). In terms of test endorsement, it is possible for participants to agree to all items on the scale. In doing so, reliability scores would be high, however this would not reflect the participant's true beliefs/attributions. Furthermore, the number of items assessing a construct is important to consider as multiple items is deemed more reliable, whilst too many items may influence test fatigue and subsequent response bias. The RAQ

consists of 5 items for each subscale, which is more reliable that an individual item and should not impact on test fatigue.

Validity

Content Related Validity

Broadly, validity refers to how well a test measures what it is meant to measure (Hammond, 2006). Content validity refers to the extent that the measures are relevant to the construct being measured. As such, content-based validity is only as good as the quality of the academic understanding of the construct. If the construct is not well understood, it cannot be measured with confidence. Given the years of research that have gone into exploring attributions of blame, practitioners administering the RAQ should have confidence that the construct is well understood. However, despite this, there are still conflicting findings with regards to the BSB and CSB constructs, such as how they are interrelated and how they relate to other variables such as distress (Koss & Figueredo, 2004) and personality (Breitenbecher, 2006).

Content validity was considered during the development of the RAQ, as items were assessed by expert judges to consider their relevance in adequately assessing the construct. As aforementioned, 10 items for each attribution and 8 or 9 items for each control measure were sent to 13 members of the Violence and Victimization Task Force of Division 35 (Psychology of Women) of the American Psychological Association. Descriptions of each construct was provided to the expert judges, and 11 responded, identifying 5 items that measured each construct appropriately. This helps to improve the content related validity of the scale, as well as ensuring items are worded clearly and concisely.

Whilst this is positive, it has been argued that direct measures of BSB do not capture the differences between BSB and CSB in relation to controllability (Anderson et al., 1994).

This could suggest potential issues with content-related validity as it may suggest that the scales are not accurately measuring each distinct construct. This supports the fact that the constructs are still not entirely understood.

Construct Related Validity

Construct validity considers the quality of the measurement, or specifically, how well items or groupings of items correlate to each other (Hammond, 2006). There are two subtypes of construct-related validity; convergent validity and divergent validity. Convergent validity refers to the extent that constructs that are expected to be related are in fact related. Divergent validity refers to the extent that two dissimilar constructs are differentiated.

As described in the introduction of this critique, the RAQ was established by building upon and developing previous scales. Meyer and Taylor's (1986) initial scale was further developed and built upon by Frazier (1990), then again by Frazier and Schauben, (1994), before being established in 2002. This development overtime has involved revising the items in the measure to ensure they are of good quality. The use of expert reviewers would also not only aid in achieving good content validity, but also that the quality of the measure is adequate.

Convergent Validity

Convergent validity can be tested by correlating the construct with variables that are understood to be associated (Campbell & Fiske, 1959). Frazier (2003) considered convergent validity in assessing how well the control scales of the RAQ correlated with the additional criterion items. The scales were found to be highly correlated with the criterion items (mean *r*s= .64 to .69), indicating good convergent validity.

Divergent Validity

Divergent validity is established if two dissimilar constructs are easily differentiated. Frazier (2003) developed two differing scales to assess BSB and CSB separately. This was following criticism of Meyer and Taylor's (1986) BSB scale, which was deemed to combine both CSB and BSB constructs and thus may overestimate the relationship between self-blame and distress. Despite the differentiation between the constructs, the scales are still considered to be interrelated (Breitenbecher, 2006), which may impact on the divergent validity of the scales.

Criterion Related Validity

Criterion-related validity refers to the sensitivity and utility of the test. There are two subtypes of criterion-related validity: concurrent validity and predictive validity. Predictive validity is not relevant for the RAQ, as it is not predicting an outcome like other psychometrics may attempt to do (e.g., those looking at risk and recidivism). Instead, the RAQ is attempting to provide an understanding about an individual's appraisals and thoughts. As such, concurrent validity will be discussed.

Concurrent Validity

Concurrent validity refers to comparing a test with an existing test (of the same nature) to see if they produce similar results. Specifically, it refers to how well a test measures the same thing as similar tests available that explore the same construct (Hammond, 2006). Ullman, Townsend et al. (2007) compared the BSB and CSB subscales of the RAQ with the self-blame subscale of the Brief Coping Orientations to Problems Experienced Scale (COPE; Carver et al., 1989). The correlations were found to be statistically significant between the COPE self-blame subscale and RAQ BSB subscale ($r = .39$, $p < .05$) and the COPE self-blame subscale and RAQ CSB subscale ($r = .45$, $p < .05$), indicating good concurrent validity.

There has been limited research exploring the relationship between the RAQ and similar scales, thus determining concurrent validity is difficult. However, on the basis that the RAQ was developed from previous scales, it could be assumed that they are related and that concurrent validity is likely to be positive.

Standardisation

A measure can be considered as standardised when its administration and scoring is clear, consistent and predetermined (Popham, 1999). In terms of administration, the RAQ can be considered as standardised as it is easy to apply and does not require great skill to administer. Results are not impacted by the administrator and the Likert scales are easy to interpret. Additionally, the scoring can be considered standardised as it involves adding up the scores for each subscale.

However, the interpretation of scores may impact on the standardisation of the RAQ. For example, there are no clear rules regarding the theoretical difference between a score of 13 and 18 on the CSB subscale. Thus, the interpretation of scores and arbitrary cut-offs established may differ across researchers. This can be related to the fact the data is ordinal and can only be ranked; with differences between scores being meaningless. It is therefore possible to conclude whether an individual attributes more blame to their character or the rapist for the rape, however the size and meaning of the differences between these scores is up to the interpretation of the researcher.

Conclusion

The RAQ has been used widely in research assessing the blame attributions associated with sexual victimisation. The RAQ is quick and easy to administer and has been used with large, diverse samples, providing lots of data relating to blame attributions and control following sexual trauma.

The RAQ is treated as one of the optimal scales for measuring rape attributions, building upon previous scales and enhancing both content and construct validity. The RAQ has addressed various limitations of previous scales, including the number of items to assess different constructs and the conceptualisation of the different subscales. The scale has been found to generally have good internal reliability, although less so for test-retest reliability due to the potential dynamic nature of blame attributions. There has been limited research into the validity of the scale, such as comparison against other similar measures, however what has been explored has yielded positive findings.

Whilst the scale has been applied to various groups, the scale indicated inadequate reliability when translated to Spanish (de la Cruz et al., 2015). Application to other nationalities and cultures could be useful to explore its generalisability further. An additional limitation of the RAQ is that it does not differentiate between known and unknown rapists within the rapist blame scale, which could influence different scores of blame on that scale and the self-blame subscales. Finally, as outlined, there are known issues related to self-report data collection, including possible response bias and social desirability. However, the RAQ would appear to minimise the likelihood of this occurring with short, clear subscales and providing anonymity for participants.

Overall, the RAQ demonstrates good psychometric properties and it is justifiable as to why it is generally the scale of choice by researchers for assessing rape attributions. To further improve the effectiveness of the scale, it may be appropriate to use it in conjunction with other similar measures, such as the COPE self-blame subscale (Carver et al., 1989) and the SVAM (Brietenbecher, 2006). In general, increasing research into the psychometric properties of the RAQ is necessary, as well as continued development of the constructs in question.

CHAPTER 5:

GENERAL DISCUSSION

Aims of the Thesis

The current thesis aimed to increase the knowledge, implications and understanding of self-blame attributions following sexual trauma, and to consider their role in line with Ehlers and Clark's (2000) model of PTSD. In order to achieve this, a systematic review of the literature looking at the impact of self-blame on trauma outcomes was conducted (Chapter 2). This enabled the present author to understand the implications of self-blame post-trauma, the differences in outcomes between characterological and behavioural self-blame attributions, and to consider which outcome variables had not been effectively explored.

In Chapter 3, the implications of self-blame on memory recall following a hypothetical rape scenario were considered. Ehlers and Clark's (2000) model suggests that an individual is likely to recall details that are in line with their cognitive appraisal of the event, avoiding details that may contradict these appraisals and consequentially recalling less complete accounts of the event. Self-blame has been found to be particularly high in victims of sexual trauma, thus the present study sought to examine the impact of these appraisals on memory recall completeness. The data were collected as part of a previous research project, thus secondary data analysis was undertaken to assess the relationships between variables. A 2x2 mixed design was used, whereby female undergraduates consumed alcohol with tonic or just tonic to manipulate consumption, and were either told they were consuming alcohol with tonic or just tonic to manipulate expectancy. They then engaged in a hypothetical rape scenario and provided data concerning the traumatic impact of the hypothetical rape, and self-blame attributions. Individuals then also engaged in a police style interview in order to collect memory recall data relating to accuracy and completeness.

Finally, the thesis critiqued the Rape Attribution Questionnaire (RAQ; Frazier, 2003). The aim of this Chapter was to assess its appropriateness in measuring self-blame and the tool's psychometric qualities. The strengths and limitations were discussed.

Key Findings

Chapter 2: The role of blame attributions in recovering from sexual trauma: A systematic review of the literature

Twenty-four studies were included in the review, assessed as having acceptable methodological quality. There were a range of outcome variables that were influenced by attributions of blame following sexual trauma. Self-blame as one concept was found to be related to an increase in PTSD symptoms, experiences of psychological distress, depression, lower self-esteem, increased maladaptive coping and decreased perceived control. Characterological self-blame (CSB) was found to be related to an increase in PTSD symptoms, higher distress, higher depression, more alcohol use, reexperiencing memory, increased maladaptive beliefs and negative social reactions. Behavioural self-blame (BSB) was found to be related to increased distress, increased depression, more alcohol use, perceived future avoid-ability of assault, more maladaptive beliefs and disclosure to informal sources. External blame was found to be related to increased PTSD symptoms. Perpetrator blame and societal blame were found to be related to increased distress and reduced wellbeing respectively. Finally, situational blame was found to be related to increased perceived present control.

With focus on self-blame, the studies cited in the review indicated that both characterological and behavioural self-blame can influence negative outcomes. However, some differences between the two types of self-blame were identified in the longitudinal studies. Behavioural self-blame was observed to be more adaptive overtime, supporting Janoff-Bulman's (1979) theory. For example, Koss and Figueredo (2004a) found that CSB predicted the initial frequency of maladaptive beliefs, whilst a decline in BSB predicted the decline of maladaptive beliefs overtime. Maladaptive beliefs were noted to be associated with

distress, suggesting that targeting and reducing BSB could have potential implications for the treatment of psychological distress.

Whilst these findings support the notion that there are some differences between the implications of behavioural and characterological self-blame on recovering from sexual trauma, some of the studies in the review were contradictory. For example, Reich et al. (2015) and Ullman, Townsend et al. (2007) found no significant relationship between self-blame and PTSD symptoms. However, it was noted that there were some differences in their conceptualisation of self-blame, with differing measures used. Furthermore, there were notable differences in the sample characteristics which may have influenced different findings. Further, Koss and Figueredo, (2004a) found neither CSB nor BSB to predict distress, concluding that the relationship is entirely mediated by maladaptive beliefs (e.g., an individual's beliefs in areas that may be impacted by trauma, such as safety, trust and control). This demonstrated the complexity of the relationship and how further exploration is required to determine the variables that may influence the relationship between self-blame and trauma recovery.

Chapter 3: An experimental examination of alcohol, traumatic impact, self-blame and memory recall in a hypothetical rape scenario

The research explored the relationship between self-blame and memory recall in a hypothetical rape scenario. This was investigated within the context of Ehlers and Clark's (2000) model of PTSD. The model depicts that the characteristics and processing of an individual's traumatic experience (such as the expectancy of consuming alcohol) influences their appraisals (such as self-blame), as well as their memory of the traumatic event. Previous research has supported the notion that both alcohol (in particular, the expectancy of consumption) and traumatic impact may affect memory recall (Davis & Loftus, 2015; Flowe et al., 2016). In line with the model, self-blame appraisals have been observed to increase

PTSD symptoms (see Chapter 2). It is acknowledged within the model that when individuals recall a traumatic event, their recall is biased by their appraisals and they selectively retrieve information that is consistent with these appraisals, affecting the completeness of their recall. It was therefore hypothesised that self-blame appraisals would lead to less complete memories of a hypothetical rape scenario. Based upon these findings, the study hypothesised that:

1. Alcohol expectancy, rather than consumption, will be negatively related to memory completeness (but not memory accuracy), and positively related to self-blame and PTSD symptoms
2. Self-blame will be positively related to traumatic impact and negatively related to memory completeness (but not memory accuracy)
3. Memory completeness (but not memory accuracy) will be negatively associated with traumatic impact
4. Alcohol expectancy and self-blame will predict memory completeness (but not memory accuracy)
5. Alcohol expectancy, self-blame and memory completeness (but not memory accuracy) will predict traumatic impact

In terms of results, *Hypothesis 1* was partially supported. The alcohol expectancy manipulation was found to be negatively related to overall memory completeness but was not found to be significantly positively related to either self-blame variables or traumatic impact variables. However, the participant's alcohol beliefs were also examined which were significantly positively related to self-blame. *Hypothesis 2* was supported. Both types of self-blame were positively related to PTSD symptoms, and BSB was also related to more intense and vivid memories of the hypothetical rape. CSB was also negatively related to memory

completeness. *Hypothesis 3* was not supported. No correlational relationship between memory completeness and either of the traumatic impact variables was observed. *Hypothesis 4* was partially supported. Alcohol expectancy predicted memory completeness in the first block of the regression model but was non-significant when the blame variables were added. CSB predicted memory completeness and the overall model was significant. This was also the case when using alcohol beliefs as the expectancy measure (*Appendix K*). Finally, *Hypothesis 5* was partially supported. The alcohol variables were excluded from the regression analyses based on the non-significant correlation findings. BSB was a significant predictor of PTSD symptoms in the first block of the regression but became non-significant when the memory variables were added. The memory variables did not significantly predict PTSD symptoms; however, the overall model was significant. BSB was also a significant predictor of the vividness and intensity of the memory of the hypothetical rape in the first block of the regression but became non-significant when the memory variables were added. Memory completeness significantly predicted the vividness and intensity of the memory of the hypothetical rape and the overall model was significant.

The study's hypotheses were considered in line with Ehler's and Clark's (2000) model of PTSD. As described above, some of the findings supported this model, whilst some were seen to contrast the model. The model suggests that the characteristics of the trauma and the state of the individual (e.g., the involvement of alcohol) will influence both their cognitive processing during the event (e.g., alcohol expectancy/beliefs) and their memory of the trauma. Their cognitive processing will then influence the individual's negative appraisals of the trauma (e.g., levels of self-blame). The individual's appraisals are then observed to be related to the perceived current threat (e.g., traumatic impact/arousal symptoms) and the trauma memory. The trauma memory is then also related to the experience of trauma symptoms. The present study's findings were mostly seen to fit this model, with the expected

relationships observed between alcohol expectancy/beliefs, self-blame, and memory completeness. Self-blame appraisals were also related to the trauma symptoms as expected. However, one key discrepancy that the present study had with the model was observed in the relationship between trauma symptoms and memory, as no relationship was identified. Various studies and theories have highlighted a significant association between trauma and memory (Easterbrook, 1959, Ehlers & Clark, 2000). Given the experimental nature of the study and the indirect hypothetical rape, traumatic impact would be expected to be significantly lower compared a real experience of rape. Many individuals scored *0=Not at all* for most items on the IES, indicating that the hypothetical scenario had limited impact. Thus, as a model for PTSD, the likelihood of patients meeting the clinical criteria for such diagnosis is low. This would limit the extent to which a relationship may be observed between traumatic impact and memory completeness. Assessing the relationship with individuals who have directly experienced sexual trauma would enable more conclusions to be drawn as to whether the model requires adaptation for sexual trauma or whether it is still a best fit for all traumatic experiences.

In addition to Ehler's and Clark's model (2000), the findings supported other previous research. For example, PTSD symptoms were positively related to both BSB and CSB, which supports previous research indicating that both types of self-blame can have adverse effects on traumatic impact and increase PTSD symptoms (Hamrick & Owens, 2019; Najdowski & Ullman, 2009).

Furthermore, CSB was observed to predict memory completeness. Distorted attributions of blame have been a recognised feature of PTSD, as depicted in the DSM-V. The notion that individuals with PTSD have difficulty recalling complete trauma memories has been well replicated, with individuals demonstrating gaps in memory (Halligan et al.,

2003). The present study therefore both supports and expands on these findings, highlighting the key role of an individual's blame appraisals on the completeness of their trauma memory.

Overall, the findings mean that participants with higher levels of characterological self-blame remembered less details of the hypothetical rape scenario. Further research is required to better understand the role of self-blame attributions on memory recall, and the implications this can have on disclosure and victim testimonies.

Chapter 4: A Psychometric Critique of the Rape Attribution Questionnaire (RAQ; Frazier, 2003)

The RAQ's psychometric properties was critiqued in order to determine its effectiveness in assessing attributions of blame and perceived rape causality in female sexual assault survivors. As a '*persistent distorted blame of the self or others'* is associated with PTSD criteria as (American Psychiatric Association, 2013), a critique of such measure is important for enabling accurate and reliable assessment of blame attributions and for determining how these may change overtime with intervention.

The RAQ is a self-report measure that assesses the attributions of five possible rape causes: Behavioural Self-Blame (BSB), Characterological Self-Blame (CSB), blaming the rapist, blaming society, and blaming chance. The five subscales each consist of five items (total of 25 items). Each item is assessed on a 5-point Likert scale (1= *never* to 5= *very often*) using the following stem: "*How often have you thought: I was assaulted because...*". The scores on each subscale are then added together, with scores ranging from 5 to 25 and higher scores being indicative of a higher attribution for that scale.

The RAQ also assesses three aspects of control: Present Control, Future Control, and the Perceived Likelihood of Future Assaults. Each subscale consists of 5 items rated on a 5-

point scale (1= *strongly disagree* to 5= *strongly agree*). Additionally, one-item criterion measures of each construct were included on the questionnaire.

The critique of the measure revealed that the measure overall has good reliability. The measure has good internal consistency; however, this can be seen to reduce when the measure is applied to non-English samples, potentially inferring that when translated, the language does not reflect the intended construct. The critique also revealed that the measure has below adequate levels of test-retest reliability; however, this may be because a victim's attributions of their rape causality may not be stable overtime. Concerning validity, despite the many years that the RAQ has been used to explore attributions, there are still conflicting findings with regards to the BSB and CSB constructs, such as how they are interrelated and how they relate to other concepts such as distress and personality. Content validity was considered in the development of the RAQ, however, there are still concerns that direct measures of BSB do not capture the differences between BSB and CSB in relation to controllability. The criterion items within the control scales enhanced convergent validity, however, within the self-blame attribution scales there are still concerns around divergent validity. Overall, these findings may reflect how the two distinct constructs are still not entirely understood.

More research is required to conceptualise these two constructs (BSB and CSB) as well as to explore the other scales within the measure which have been somewhat neglected concerning their critique within the literature. This will enable better use and application of the RAQ to inform PTSD diagnostic criteria and intervention progress.

Thesis Strengths and Limitations

This thesis has successfully and systematically collated the findings concerning the implications of self-blame on sexual trauma recovery and has expanded this knowledge base

by exploring the relationship between self-blame on memory recall. The study has provided a prospective way to assess whether self-blame appraisals affect memory completeness, enabling for specific cognitive processes and variables to be directly measured. Furthermore, the most widely used measure to assess self-blame attributions has been critiqued, with areas of weakness identified and considered. The thesis has considered the implications of these findings both for future research and in applied practice.

Despite these strengths, there are limitations to consider. The review may not be inclusive of all reported findings due to the exclusion of grey literature and dissertation articles. The empirical study used a comprehensive dataset that has been used to fulfil previous research questions, however, in order to fulfil the research aims, participants needed to have completed all the relevant measures within the dataset. When this was taken into consideration, the sample was observed to be relatively small (N=63), limiting generalisability of findings. Furthermore, it is important to consider the limitations of conducting laboratory experiments, particularly with a topic as sensitive as sexual trauma. Controlled variables such as alcohol consumption/expectancy would not reflect a true experience, and the hypothetical nature of the rape scenario could limit the extent to which self-blame and traumatic impact measures are ecologically valid. Consequentially, it would be useful to further explore the relationship between self-blame and memory recall in a real-life context to develop insight. Despite such limitations, the study has identified an avenue for future research- examining and consolidating how self-blame is associated with memory recall variables, including the content of the recall, to gain further understanding of this relationship.

Application of Findings

The findings of the literature review and research project have highlighted the significant role of self-blame following sexual trauma with regards to recovery and memory

recall. Whilst previous findings acknowledged that self-blame is associated with re-experiencing memory (Koss et al., 2002) the present study has found that self-blame is also associated with memory recall completeness. This is an important addition to the existing literature, in that it indicates how self-blame is not only directly related to sexual trauma recovery (as explored within Chapter 2) but may also have implications on the investigative process of sexual offences, in particular concerning victim testimony. This is important given that a victim's testimony is often relied upon as evidence in rape cases (Lees, 2002).

For example, if individuals blaming themselves provide less complete testimonies, this may have implications for rape attrition rate and serving justice for victims, as fewer cases will reach conviction. Understanding the mechanisms in this relationship will further enhance the application of the present findings; it is evident that this avenue of research is in its early days. The findings suggest that individuals who blame themselves withhold details during recall, which, when considered in relation to previous findings, may be due to concerns of being judged or receiving negative responses. Research that has explored the relationship between self-blame and social reactions has found that CSB is associated with more negative reactions (Ullman & Najdowski, 2011). If the fear of negative reactions impacts a victim's recall completeness when providing a testimony, then this illustrates the need to not only support victims during the investigation process in order to improve their testimony, but to also address the investigation process to limit stigmatisation. Caringella (2009) identified that sexual trauma victims have been treated poorly by criminal justice systems, and other victims have reported poor treatment by the police (Myhill & Allen, 2002). Sleath and Bull's (2017) systematic review explored police perceptions of rape victims and identified that some officers would engage in victim-blaming, rape myth acceptance and hold generally problematic attitudes. This highlights the need for an

improvement in the response from police and criminal justice system to victims of sexual trauma.

In relation to the present study's findings, a poor response to victims from the police could be a contributing factor for less complete recall during questioning. The necessity for a positive response from police officers would therefore be of paramount importance, particularly as the police are often the first response for victims of rape (Wentz & Archbold, 2012) and then the victim's statements are used as primary evidence in the investigation (Lees, 2002). Decreasing the police's engagement in victim-blaming and rape myth acceptance may highlight wider goals concerning the need to address a misogynistic and victim-blaming society. To limit the negative reactions from others, it could be beneficial for rape victims to write down their accounts at the start of the investigation (see Hope et al., 2011 for a review on this). This may also enable victims to provide more complete accounts if the reason for the observed relationship between self-blame and memory recall completeness is due to the concerns of being judged by others. This is a direction for future research.

Other findings in the empirical study also have practice implications. For example, the study supports the notion that the actual consumption of alcohol predicts neither memory accuracy nor completeness following a rape case, and that it is the beliefs of consumption that influence this relationship. As cases of rape often involve the consumption of alcohol (Brecklin & Ullman, 2010; Palmer et al., 2013) and experts believe that alcohol impairs eyewitness performance and memory (Kassin et al., 2001), promoting these findings to jurors and law experts would be important to achieve non-bias outcomes in court. In addition to jurors and law experts, Sleath and Bull (2017) found that a victim's level of intoxication negatively impacts on the police's attributions of victim credibility, and that their perceptions of victim credibility impacts on decisions within the investigation, such as whether to charge

the perpetrator. Promoting such findings could therefore limit attrition within rape cases not only at the prosecution stages but in the initial investigative stages. Furthermore, in highlighting these findings, individuals may have more desire to report their experience and have confidence in their recollection, being less likely to withhold details due to the belief of consuming alcohol. This could influence more complete accounts of events and an overall more successful investigation.

Concerning the literature review, understanding the role of blame attributions in sexual trauma recovery has important treatment implications. The review indicates that addressing attributions that impact on negative outcomes and adapting these may serve a function in improving outcomes overtime. In 2013, the DSM-V criteria for PTSD was revised to incorporate persistent, distorted blame of the self or others (American Psychiatric Association, 2013), indicating that an individual's attribution of blame is an important feature of PTSD. The findings from the literature review suggest that it is not only PTSD that attributions can affect, but also various other mental health outcomes, social outcomes and coping. The findings also highlight how self-blame in particular can increase these undesirable symptoms. Thus, psychological intervention should place focus on not only addressing the symptoms of distress, but also these specific self-blame appraisals in order to minimise the symptoms- supporting Ehlers and Clark's (2000) model.

Future Research

There are avenues to be further explored that were highlighted within the literature review chapter of this thesis. Whilst both characterological and behavioural self-blame have received a lot of focus within the literature, there is less understanding on the implications that other attributions of blame may have on sexual trauma recovery. Despite the PTSD criteria acknowledging that it is a '*persistent distorted blame of the self or others'* (American

Psychiatric Association, 2013) that is relevant to trauma, the 'others' has been neglected in terms of implications and explanations.

Furthermore, the review highlighted that the US has dominated this topic in research. No papers included in the review had been conducted in the UK and so considering potential differences between populations is important when generalising findings to a UK population of trauma survivors. The prevalence of sexual assault is understood to be significantly lower in England (Carson, 2007), which could potentially alter the way victims attribute blame. This would also have to be considered in relation to the empirical study within this thesis. If memory completeness is reduced due to victims withholding rape details over fears of receiving negative reactions, this can be attributed to a wider societal issue related to victim-blaming and misogyny. It is unclear how this may differ in a country where sexual assault prevalence is considerably higher, as well as how this could differ to non-westernised populations.

Finally, as aforementioned, it would be useful to explore the relationship between self-blame and memory recall in a real-life context to develop further insight. This would enable more valid conclusions to be drawn concerning the mechanisms influencing the relationship. This exploration is still in its early days and so the present study represents the beginning of a new avenue to be explored related to sexual trauma recovery. Exploring the content of the memory recall may enable further conclusions to be drawn about the function of the relationship between self-blame and less complete memory recall.

REFERENCES

Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: critique and reformulation. *Journal of Abnormal Psychology, 87*(1), 49-74. https://doi.org/10.1037/0021-843X.87.1.49

Alameda, L., Ferrari, C., Baumann, P. S., Gholam-Rezaee, M., Do, K. Q., & Conus, P. (2015). Childhood sexual and physical abuse: age at exposure modulates impact on functional outcome in early psychosis patients. *Psychological Medicine, 45*(13), 2727-2736. https://doi.org/10.1017/S0033291715000690

Adler, S. (1980). Self-esteem and causal attributions for job satisfaction and dissatisfaction. *Journal of Applied Psychology*, *65*(3), 327-332. https://doi.org/10.1037/0021-9010.65.3.327

American Psychiatric Association (Ed.). (1980). *Quick Reference to the Diagnostic Criteria from DSM-III*. American Psychiatric Association Publishing.

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders. Fifth Edition*. American Psychiatric Publishing.

Anderson, C. A., Miller, R. S., Riger, A. L., Dill, J. C., & Sedikides, C. (1994). Behavioral and characterological attributional styles as predictors of depression and loneliness: Review, refinement, and test. *Journal of Personality and Social Psychology, 66,* 549–558. https://doi.org/10.1037/0022-3514.66.3.549

Andresen, E. M., Malmgren, J. A., Carter, W. B., & Patrick, D. L. (1994). Screening for depression in well older adults: Evaluation of a short form of the CES-D. *American Journal of Preventive Medicine, 10*(2), 77-84. https://doi.org/10.1016/S0749-3797(18)30622-6

Arata, C. M., & Burkhart, B. R. (1996). Post-traumatic stress disorder among college student victims of acquaintance assault. *Journal of Psychology & Human Sexuality, 8*(1-2), 79-92. https://doi.org/10.1300/J056v08n01_06

Attwood, A. S., Ataya, A. F., Benton, C. P., Penton-Voak, I. S., & Munafò, M. R. (2009). Effects of alcohol consumption and alcohol expectancy on the categorisation of perceptual cues of emotional expression. *Psychopharmacology, 204*(2), 327-334. https://doi.org/10.1007/s00213-009-1463-1

Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). *The Alcohol Use Disorders Identification Test: Guidelines for use in Primary Care.* World Health Organization.

Banyard, V. L., Williams, L. M., & Siegel, J. A. (2004). Childhood sexual abuse: A gender perspective on context and consequences. *Child Maltreatment, 9*(3), 223-238. https://doi.org/10.1177/107755904266914

Barry, K. (1979). *Female sexual slavery.* New York, NY: New York University Press.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*(6), 561-571. https://doi.org/10.1001/archpsyc.1961.01710120031004

Berliner, L., Hyman, I., Thomas, A., & Fitzgerald, M. (2003). Children's memory for trauma and positive experiences. *Journal of Traumatic Stress, 16*(3), 229-236. https://doi.org/10.1023/A:1023787805970

Berntsen, D. (2002). Tunnel memories for autobiographical events: Central details are remembered more frequently from shocking than from happy experiences. *Memory & Cognition, 30*(7), 1010-1020. https://doi.org/10.3758/BF03194319

Berntsen, D., & Thomsen, D. K. (2005). Personal memories for remote historical events: accuracy and clarity of flashbulb memories related to World War II. *Journal of Experimental Psychology: General*, *134*(2), 242-257. https://doi.org/10.1037/0096-3445.134.2.242

Bisby, J. A., King, J. A., Brewin, C. R., Burgess, N., & Curran, H. V. (2010). Acute effects of alcohol on intrusive memory development and viewpoint dependence in spatial memory support a dual representation model. *Biological Psychiatry*, *68*(3), 280-286. https://doi.org/10.1016/j.biopsych.2010.01.010

Bisby, J. A., Leitz, J. R., Morgan, C. J., & Curran, H. V. (2010). Decreases in recollective experience following acute alcohol: A dose–response study. *Psychopharmacology*, *208*(1), 67-74. https://doi.org/10.1007/s00213-009-1709-y

Black, K. A., & McCloskey, K. A. (2013). Predicting date rape perceptions: The effects of gender, gender role attitudes, and victim resistance. *Violence Against Women*, *19*(8), 949-967. https://doi.org/10.1177/1077801213499244

Blake, D., Weathers, F., Nagy, L., Kaloupek, D., Klauminzer, G., Charney, D., & Keane, T. (1990). *Clinician-Administered PTSD Scale (CAPS). Form 1. Current and Lifetime Diagnosis Version.* Boston, MA: National Center for Posttraumatic Stress Disorder.

Blascovich, J., Tomaka, J., 1993. Measure of self-esteem. In Robinson, J.P., Shaver, P.R., Wrightsman, L.S. (Eds.), *Measures of Personality and Social Psychological Attitudes, Third edition*, (pp. 115–160). Academic Press.

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American psychologist*, *59*(1), 20-28. https://doi.org/10.1037/0003-066X.59.1.20

Bonanno, G. A., Noll, J. G., Putnam, F. W., O'Neill, M., & Trickett, P. K. (2003). Predicting the willingness to disclose childhood sexual abuse from measures of repressive coping and dissociative tendencies. *Child Maltreatment*, *8*(4), 302-318. https://doi.org/10.1177/1077559503257066

Boomsma, A., & Hoogland, J.J. (2001). The robustness of LISREL modelling revisited. *Structural equation models: Present and future. A Festschrift in honor of Karl Jöreskog,* 2(3), 139–168. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.11.684&rep=rep1&type=pdf

Boone, H. N., & Boone, D. A. (2012). Analyzing likert data. *Journal of extension*, *50*(2), 1-5. https://www.researchgate.net/profile/Mahdi-Safarpour-2/post/what_is_a_logistic_regression_analysis/attachment/59d622fb79197b8077981513/AS%3A304626539139073%401449640034657/download/Likert+Scale+vs+Likert+Item+%28Good+Source%29.pdf

Bouffard, J. (2000). Predicting type of sexual assault case closure from victim, suspect and case characteristics. *Journal of Criminal Justice*, *28*, 527–542. https://doi.org/10.1016/S0047-2352(00)00068-4

Bowerman, B. L., & O'connell, R. T. (1990). *Linear statistical models: An applied approach*. Brooks/Cole.

*Branscombe, N. R., Wohl, M. J., Owen, S., Allison, J. A., & N'gbala, A. (2003). Counterfactual thinking, blame assignment, and well-being in rape victims. *Basic and Applied Social Psychology*, *25*(4), 265-273. https://doi.org/10.1207/S15324834BASP2504_1

Brecklin, L. R., & Ullman, S. E. (2010). The roles of victim and offender substance use in sexual assault outcomes. *Journal of interpersonal violence*, *25*(8), 1503-1522. https://doi.org/10.1177/0886260509354584

*Breitenbecher, K. H. (2006). The relationships among self-blame, psychological distress, and sexual victimization. *Journal of interpersonal violence*, *21*(5), 597-611. https://doi.org/10.1177/0886260506286842

Brener, N.D., Billy, J.O.G., & Grady, W.R. (2003). Assessment of factors affecting the validity of self-reported health-risk behavior among adolescents: Evidence from the scientific literature. *The Journal of Adolescent Health, 33,* 436–457

Brewin, C. R. (2007). Autobiographical memory for trauma: Update on four controversies. *Memory*, *15*(3), 227-248. https://doi.org/10.1016/S1054-139X(03)00052-1

Brewin, C. R., Dalgleish, T., & Joseph, S. (1996). A dual representation theory of posttraumatic stress disorder. *Psychological review*, *103*(4), 670-686. https://doi.org/10.1037/0033-295X.103.4.670

Brown, R., & Kulik, J. (1977). Flashbulb memories. *Cognition, 5,* 73-99. https://doi.org/10.1016/0010-0277(77)90018-X

Bulman, R. J., & Wortman, C. B. (1977). Attributions of blame and coping in the" real world": severe accident victims react to their lot. *Journal of personality and social psychology*, *35*(5), 351-363. https://doi.org/10.1037/0022-3514.35.5.351

Burnam, M. A., Stein, J. A., Golding, J. M., Siegel, J. M., Sorenson, S. B., Forsythe, A. B., & Telles, C. A. (1988). Sexual assault and mental disorders in a community. *Journal of*

Consultant Clinical Psychology, *56*(6), 843-850. https://doi.org/10.1037/0022-006X.56.6.843

Burt, M. R. (1980). Cultural myths and supports for rape. *Journal of personality and social psychology*, *38*(2), 217-230. https://doi.org/10.1037/0022-3514.38.2.217

Calhoun, L. G., Selby, J. W., & Warring, L. J. (1976). Social perception of the victim's causal role in rape: An exploratory examination of four factors. *Human Relations*, *29*(6), 517-526. https://doi.org/10.1177/001872677602900602

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological bulletin*, *56*(2), 81-105. https://doi.org/10.1037/h0046016

Caringella, S. (2009). *Addressing rape reform in law and practice.* Columbia University Press.

Carli, L. L. (1999). Cognitive reconstruction, hindsight, and reactions to victims and perpetrators. *Personality and Social Psychology Bulletin*, *25*(8), 966-979. https://doi.org/10.1177/01461672992511005

Carson, Catie (2007). A Comparison of Sexual Assault in the U.S., Canada, and England. *Undergraduate Review*, *3*, 57-69. http://vc.bridgew.edu/undergrad_rev/vol3/iss1/11

Carver, C. S., & Scheier, M. F. (1981). The self-attention-induced feedback loop and social facilitation. *Journal of Experimental Social Psychology*, *17*(6), 545-568. https://doi.org/10.1016/0022-1031(81)90039-1

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of personality and social psychology*, *56*(2), 267-283. https://doi.org/10.1037/0022-3514.56.2.267

CASP (2018). *CASP checklists: Critical Appraisal Skills Programme (CASP).* Oxford: CASP UK.

Christianson, S. Å. (1984). The relationship between induced emotional arousal and amnesia. *Scandinavian Journal of Psychology*, *25*(2), 147-160. https://doi.org/10.1111/j.1467-9450.1984.tb01007.x

Christianson, S. Å., & Loftus, E. F. (1990). Some characteristics of people's traumatic memories. *Bulletin of the Psychonomic Society*, *28*(3), 195-198. https://doi.org/10.3758/BF03334001

Cohen, J. (1992). A power primer. *Psychological bulletin*, *112*(1), 155-159. https://doi.org/10.1037/0033-2909.112.1.155

Cohen, J. A., & Mannarino, A. P. (2002). Addressing attributions in treating abused children. *Child Maltreatment*, *7*(1), 81-84. https://doi.org/10.1177/1077559502007001008

Convery, A. (2006). No victims, no oppression: Feminist theory and the denial of victimhood. *Actas de la Conferencia APSA,* 232-251. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.454.3637&rep=rep1&type=pdf

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-monitoring system. *Psychological Review, 107*(2), 261-288. https://doi.org/10.1037/0033-295X.107.2.261

Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: a motivational model of alcohol use. *Journal of personality and social psychology*, *69*(5), 990-1005. https://doi.org/10.1037/0022-3514.69.5.990

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, *78*(1), 98-104. https://doi.org/10.1037/0021-9010.78.1.98

Cowburn, M., Gill, A. K., & Harrison, K. (2015). Speaking about sexual abuse in British South Asian communities: offenders, victims and the challenges of shame and reintegration. *Journal of sexual aggression*, *21*(1), 4-15. https://doi.org/10.1080/13552600.2014.929188

Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the impact of event scale- revised. *Behaviour research and therapy*, *41*(12), 1489-1496. https://doi.org/10.1016/j.brat.2003.07.010

Crossland, D., Kneller, W., & Wilcock, R. (2016). Intoxicated witnesses: Testing the validity of the alcohol myopia theory. *Applied Cognitive Psychology*, *30*, 270–281. https://doi.org/10.1002/acp.3209

Crown Prosecution Service. (2012). *CPS Policy for Prosecuting Cases of Rape.* The Crown Prosecution Service: London.

Davis, D., & Loftus, E. F. (2015). Remembering disputed sexual encounters: A new frontier for witness memory research. *Journal of Criminal Law & Criminology*, *105*(4), 811-851. https://scholarlycommons.law.northwestern.edu/jclc/vol105/iss4/3

Davis, K. C., Hendershot, C. S., George, W. H., Norris, J., & Heiman, J. R. (2007). Alcohol's effects on sexual decision making: An integration of alcohol myopia and individual differences. *Journal of studies on alcohol and drugs*, *68*(6), 843-851. https://doi.org/10.15288/jsad.2007.68.843

de la Cruz, M. Á., Peña, M. E., & Andreu, J. M. (2015). Creencias desadaptativas, estilos de afrontamiento y apoyo social como factores predictores de la vulnerabilidad

psicopatológica en mujeres víctimas de agresión sexual [Maladaptive beliefs, coping strategies, and social support as predictive factors of psychopathological vulnerability in female victims of sexual assault]. *Clínica y Salud, 26*(1), 33–39. http://dx.doi.org/10.1016/j.clysa.2014.12.001

Deitz, M. F., Williams, S. L., Rife, S. C., & Cantrell, P. (2015). Examining cultural, social, and self-related aspects of stigma in relation to sexual assault and trauma symptoms. *Violence Against Women*, *21*(5), 598-615. https://doi.org/10.1177/1077801215573330

Derogatis, L. R. (1994). *SCL-90-R Administration, Scoring and Procedures Manual.* Minneapolis, MN: National Computer Systems.

Derogatis, L. R., & Melisaratos, N. (1983). The brief symptom inventory: an introductory report. *Psychological medicine*, *13*(3), 595-605. https://doi.org/10.1017/S0033291700048017

Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *Journal of the Academy of Marketing Science*, *40*(3), 434-449. https://doi.org/10.1007/s11747-011-0300-3

Dohrenwend, B. P., Shrout, P. E., Egri, G., & Mendelsohn, F. S. (1980). Nonspecific psychological distress and other dimensions of psychopathology: Measures for use in the general population. *Archives of general psychiatry*, *37*(11), 1229-1236. http://doi.org/10.1001/archpsyc.1980.01780240027003

Dutra, L., Callahan, K., Forman, E., Mendelsohn, M., & Herman, J. (2008). Core schemas and suicidality in a chronically traumatized population. *The Journal of nervous and mental disease*, *196*(1), 71-74. http://doi.org/10.1097/NMD.0b013e31815fa4c1

Easterbrook, J. A. (1959). The effect of emotion on cue utilization and the organization of behavior. *Psychological review, 66*(3), 183-201. https://doi.org/10.1037/h0047707

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour research and therapy*, *38*(4), 319-345. https://doi.org/10.1016/S0005-7967(99)00123-0

Ehlers, A., Hackmann, A., & Michael, T. (2004). Intrusive re-experiencing in post-traumatic stress disorder: Phenomenology, theory, and therapy. *Memory*, *12*(4), 403-415. https://doi.org/10.1080/09658210444000025

Eisen, M. L., Goodman, G. S., Qin, J., Davis, S., & Crayton, J. (2007). Maltreated children's memory: Accuracy, suggestibility, and psychopathology. *Developmental psychology*, *43*(6), 1275-1294. https://doi.org/10.1037/0012-1649.43.6.1275

Feiring, C., Cleland, C. M., & Simon, V. A. (2009). Abuse-specific self-schemas and self-functioning: A prospective study of sexually abused youth. *Journal of Clinical Child & Adolescent Psychology*, *39*(1), 35-50. https://doi.org/10.1080/15374410903401112

Feiring, C., Taska, L., & Lewis, M. (1999). Age and gender differences in children's and adolescents' adaptation to sexual abuse. *Child Abuse & Neglect*, *23*(2), 115-128. https://doi.org/10.1016/S0145-2134(98)00116-1

Fernández-Ballesteros, R. (2002). *Encyclopaedia of Psychological Assessment.* SAGE Publications Ltd.

Field, A. P. (2003). The problems in using fixed-effects models of meta-analysis on real-world data. *Understanding Statistics: Statistical Issues in Psychology, Education, and the Social Sciences*, *2*(2), 105-124. https://doi.org/10.1207/S15328031US0202_02

Fincham, F. D., Bradbury, T. N., & Grych, J. H. (1990). Conflict in close relationships: The role of intrapersonal phenomena. In Graham, S. & Folkes, V. S. (Eds), *Attribution theory: Applications to achievement, mental health, and interpersonal conflict* (pp. 161-184). Psychology Press.

Fivush, R., McDermott Sales, J., Goldberg, A., Bahrick, L., & Parker, J. (2004). Weathering the storm: Children's long-term recall of Hurricane Andrew. *Memory, 12*(1), 104-118. https://doi.org/10.1080/09658210244000397

Flannery, R. B. (1999). Psychological trauma and posttraumatic stress disorder: A review. *International Journal of Emergency Mental Health*, *1*(2), 135-140. https://psycnet.apa.org/record/2000-12392-009

Flowe, H. D., & Compo, N. S. (2021). The lack of robust evidence for the effects of alcohol on false memory. *Neuroscience & Biobehavioral Reviews*, *127*, 332-333. https://doi.org/10.1016/j.neubiorev.2021.04.029

Flowe, H. D., & Maltby, J. (2018). An experimental examination of alcohol consumption, alcohol expectancy, and self-blame on willingness to report a hypothetical rape. *Aggressive behavior*, *44*(3), 225-234. https://doi.org/10.1002/ab.21745

Flowe, H. D., Humphries, J. E., Takarangi, M. K., Zelek, K., Karoğlu, N., Gabbert, F., & Hope, L. (2019). An experimental examination of the effects of alcohol consumption and exposure to misleading post event information on remembering a hypothetical rape scenario. *Applied cognitive psychology*, *33*(3), 393-413. https://doi.org/10.1002/acp.3531

Flowe, H. D., Stewart, J., Sleath, E. R., & Palmer, F. T. (2011). Public house patrons' engagement in hypothetical sexual assault: A test of Alcohol Myopia Theory in a field setting. *Aggressive Behavior*, *37*(6), 547-558. https://doi.org/10.1002/ab.20410

Flowe, H. D., Takarangi, M. K. T., Humphries, J. E., & Wright, D. S. (2016). Alcohol and remembering a hypothetical sexual assault: Can people who were under the influence of alcohol during the event provide accurate testimony? *Memory, 24,* 1042–1061. https://doi.org/10.1080/09658211.2015.1064536

Foa, E. B., Cashman, L., Jaycox, L., & Perry, K. (1997). The validation of a self-report measure of posttraumatic stress disorder: the Posttraumatic Diagnostic Scale. *Psychological assessment, 9*(4), 445-451. https://doi.org/10.1037/1040-3590.9.4.445

Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The posttraumatic cognitions inventory (PTCI): Development and validation. *Psychological assessment*, *11*(3), 303-314. https://doi.org/10.1037/1040-3590.11.3.303

Fox E, Russo R, Bowles R, Dutton K. 2001. Do threatening stimuli draw or hold visual attention in subclinical anxiety? *Journal of Experimental Psychology: General, 130*(4), 681–700. https://psycnet.apa.org/buy/2001-05320-006

*Frazier, P. A. (1990). Victim attributions and post-rape trauma. *Journal of personality and social psychology*, *59*(2), 298-304. https://doi.org/10.1037/0022-3514.59.2.298

Frazier, P. A. (2000). The role of attributions and perceived control in recovery from rape. *Journal of Personal & Interpersonal Loss*, *5*(2-3), 203-225. https://doi.org/10.1080/10811440008409753

Frazier, P. A. (2002). *Rape attribution questionnaire*. Unpublished manuscript, University of Minnesota.

*Frazier, P. A. (2003). Perceived control and distress following sexual assault: a longitudinal test of a new model. *Journal of Personality and Social Psychology*, *84*(6), 1257-1269. https://doi.org/10.1037/0022-3514.84.6.1257

Frazier, P. A., & Burnett, J. W. (1994). Immediate coping strategies among rape victims. *Journal of Counseling & Development, 72*(6), 633-639. https://doi.org/10.1002/j.1556-6676.1994.tb01694.x

Frazier, P. A., & Schauben, L. J. (1994). Stressful life events and psychological adjustment among female college students. *Measurement and Evaluation in Counselling and Development*, *27*(1), 280-292. https://psycnet.apa.org/record/1995-03542-001

Friedberg, R., & McClure, J. (2002). Review of Clinical Practice of Cognitive Therapy with Children and Adolescents. J*ournal of Developmental and Behavioral Pediatrics, 23*(6), 457–458. https://doi.org/10.1097/00004703-200212000-00013

Friedman, M. J. (2007). *PTSD history and overview.* United States Department of Veterans Affairs.

Gabbert, F., Hope, L., & Fisher, R. P. (2009). Protecting eyewitness evidence: Examining the efficacy of a self-administered interview tool. *Law and Human Behavior*, *33*, 298–307. https://doi.org/10.1007/s10979-008-9146-8

Gabbert, F., Hope, L., Fisher, R. P., & Jamieson, K. (2012). Protecting against misleading post event information with a self-administered interview. *Applied Cognitive Psychology*, *26*, 568–575. https://doi.org/10.1002/acp.2828

George, W. H., Stoner, S. A., Norris, J., Lopez, P. A., & Lehman, G. L. (2000). Alcohol expectancies and sexuality: A self-fulfilling prophecy analysis of dyadic perceptions and behavior. *Journal of Studies on Alcohol, 61,* 168-176. https://doi.org/10.15288/jsa.2000.61.168

Ghetti, S., Edelstein, R. S., Goodman, G. S., Cordon, I. M., Quas, J. A., Alexander, K. W., et al., (2006). What can subjective forgetting tell us about memory for childhood

trauma? *Memory and Cognition, 34*, 1011-1025. https://doi.org/10.3758/BF03193248

Glasser, M., Kolvin, I., Campbell, D., Glasser, A., Leitch, I., & Farrelly, S. (2001). Cycle of child sexual abuse: Links between being a victim and becoming a perpetrator. *The British Journal of Psychiatry*, *179*(6), 482-494. https://doi.org/10.1192/bjp.179.6.482

Glen, S. (2015). *Response Bias: Definition and Examples.* From StatisticsHowTo.com: Elementary Statistics for the rest of us! https://www.statisticshowto.com/response-bias/

*Graham, A. C., Mallinson, R. K., Krall, J. R., & Annan, S. L. (2019). Sexual assault, campus resource use, and psychological distress in undergraduate women. *Journal of Interpersonal Violence*, *36*(21-22), 10361-10382. https://doi.org/10.1177/0886260519884689

Greene, T. (2018). Blame, PTSD and DSM-5: an urgent need for clarification. *European Journal of Psychotraumatology*, *9*(1), Article: 1468709. https://doi.org/10.1080/20008198.2018.1468709

Grubaugh, A. L., & Resick, P. A. (2007). Posttraumatic growth in treatment-seeking female assault victims. *Psychiatric Quarterly*, *78*(2), 145-155. https://doi.org/10.1007/s11126-006-9034-7

Guildford, J.P. (1956). *Fundamental Statistics in Psychology and Education.* New York: McGraw Hill.

Hammond, S. (2006). Using psychometric tests. In Breakwell, G, M., Hammond, S., Fife-Schaw, C. & Smith, J. A. (Eds), *Research methods in psychology* (pp. 182-209). SAGE Publications

*Hamrick, L. A., & Owens, G. P. (2019). Exploring the mediating role of self-blame and coping in the relationships between self-compassion and distress in females following the sexual assault. *Journal of clinical psychology*, *75*(4), 766-779. https://doi.org/10.1002/jclp.22730

*Harris, C., Ullman, S. E., Shepp, V., & O'Callaghan, E. (2020). Multiple perpetrator sexual assault: correlates of PTSD and depressive symptoms in a sample of adult women. *Journal of Sexual Aggression, 3,* 387-400. https://doi.org/10.1080/13552600.2020.1823496

Harvey, A. G., & Bryant, R. A. (2001). Reconstructing trauma memories: A prospective study of "amnesic" trauma survivors. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *14*(2), 277-282. https://doi.org/10.1023/A:1011108816888

Hays, R. D., & Revicki, D. A. (2005). Reliability and validity (including responsiveness). In Fayers, P. M, & Hays, R. (Eds) *Assessing Quality of Life in Clinical Trials* (pp. 25-39). Oxford University Press.

Heath, N. M., Lynch, S. M., Fritch, A. M., McArthur, L. N., & Smith, S. L. (2011). Silent survivors: Rape myth acceptance in incarcerated women's narratives of disclosure and reporting of rape. *Psychology of Women Quarterly*, *35*(4), 596-610. https://doi.org/10.1177/0361684311407870

Heider, F. (1958). *The psychology of interpersonal relations.* New York: Wiley

Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of traumatic stress*, *5*(3), 377-391. https://doi.org/10.1002/jts.2490050305

Higgins, J. P., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., & Welch, V. A. (Eds.). (2019). *Cochrane handbook for systematic reviews of interventions*. John Wiley & Sons.

*Hill, J. L., & Zautra, A. J. (1989). Self-blame attributions and unique vulnerability as predictors of post-rape demoralization. *Journal of Social and Clinical Psychology, 8*(4), 368-375. https://doi.org/10.1521/jscp.1989.8.4.368

Holliday, R. E., Humphries, J. E., Milne, R., Memon, A., Houlder, L., Lyons, A., & Bull, R. (2012). Reducing misinformation effects in older adults with cognitive interview mnemonics. *Psychology and Aging*, *27*, 1191–1203. https://doi.org/10.1037/a0022031

Hope, L., Gabbert, F., & Fisher, R. P. (2011). From laboratory to the street: Capturing witness memory using the self-administered interview: The self-administered interview. *Legal and Criminological Psychology*, *16*, 211–226. https://doi.org/10.1111/j.2044-8333.2011.02015.x

Houston, K. A., Hope, L., Memon, A., & Don Read, J. (2013). Expert testimony on eyewitness evidence: In search of common sense. *Behavioral Sciences & the Law*, *31*(5), 637-651. https://doi.org/10.1002/bsl.2080

James, W. (1890). *The Principles of Psychology*. New York: Dover.

Janoff-Bulman, R. (1979). Characterological versus behavioral self-blame: Inquiries into depression and rape. *Journal of personality and social psychology*, *37*(10), 1798-1809. https://doi.org/10.1037/0022-3514.37.10.1798

Janoff-Bulman, R., & Frieze, I. H. (1983). A theoretical perspective for understanding reactions to victimization. *Journal of Social Issues, 39*(2), 1–17. https://doi.org/10.1111/j.1540-4560.1983.tb00138.x

Josephs, R. A., & Steele, C. M. (1990). The two faces of alcohol myopia: Attentional mediation of psychological stress. *Journal of abnormal psychology, 99*(2), 115-126. https://doi.org/10.1037/0021-843X.99.2.115

Jores, T., Colloff, M. F., Kloft, L., Smailes, H., & Flowe, H. D. (2019). A meta-analysis of the effects of acute alcohol intoxication on witness recall. *Applied cognitive psychology*, *33*(3), 334-343. https://doi.org/10.1002/acp.3533

Karabatsos, G. (1997). The sexual experiences survey: Interpretation and validity. *Journal of Outcome Measurement*, *1*, 305-328. https://europepmc.org/article/med/9661726

Kaye-Tzadok, A., & Davidson-Arad, B. (2016). Posttraumatic growth among women survivors of childhood sexual abuse: Its relation to cognitive strategies, posttraumatic symptoms, and resilience. *Psychological Trauma: Theory, Research, Practice, and Policy*, *8*(5), 550-558. https://doi.org/10.1037/tra0000103

Kelley, H. H. (1967). Attribution theory in social psychology. *Nebraska Symposium on Motivation*, *15*, 192-238. https://psycnet.apa.org/record/1968-13540-001

Kilpatrick, D. G., Acierno, R., Resnick, H. S., Saunders, B. E., & Best, C. L. (1997). A 2-year longitudinal analysis of the relationships between violent assault and substance use in women. *Journal of consulting and clinical psychology*, *65*(5), 834-847. https://doi.org/10.1037/0022-006X.65.5.834

Kline, P. (2015). *A handbook of test construction (psychology revivals): introduction to psychometric design*. Routledge.

Kline, T. J. (1999). The team player inventory: Reliability and validity of a measure of predisposition toward organizational team-working environments. *Journal for Specialists in Group Work*, *24*(1), 102-112. https://doi.org/10.1080/01933929908411422

*Koss, M. P., & Figueredo, A. J. (2004). Change in cognitive mediators of rape's impact on psychosocial health across 2 years of recovery. *Journal of Consulting and Clinical Psychology, 72*(6), 1063-1072. https://doi.org/10.1037/0022-006X.72.6.1063

*Koss, M. P., & Figueredo, A. J. (2004). Cognitive mediation of rape's mental health impact: Constructive replication of a cross-sectional model in longitudinal data. *Psychology of Women Quarterly, 28*(4), 273-286. https://doi.org/10.1111/j.1471-6402.2004.00145.x

Koss, M. P., Dinero, T. E., Seibel, C. A., & Cox, S. L. (1988). Stranger and acquaintance rape: Are there differences in the victim's experience? *Psychology of Women Quarterly*, *12*(1), 1-24. https://doi.org/10.1111/j.1471-6402.1988.tb00924.x

*Koss, M. P., Figueredo, A. J., & Prince, R. J. (2002). Cognitive mediation of rape's mental, physical and social health impact: Tests of four models in cross-sectional data. *Journal of Consulting and Clinical Psychology*, *70*(4), 926-941. https://doi.org/10.1037/0022-006X.70.4.926

Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*, *55*(2), 162-170. https://doi.org/10.1037/0022-006X.55.2.162

Koss, M. P., Woodruff, W. J., & Koss, P. G. (1991). Criminal victimization among primary care medical patients: Prevalence, incidence, and physician usage. *Behavioral Sciences & the Law*, *9*(1), 85-96. https://doi.org/10.1002/bsl.2370090110

Langner, O., Dotsch, R., Bijlstra, G., Wigboldus, D. H. J., Hawk, S. T., & van Knippenberg, A. (2010). Presentation and validation of the Radboud Faces Database. *Cognition & Emotion*, *24*, 1377–1388. https://doi.org/10.1080/02699930903485076

Larsen, S. E., & Fitzgerald, L. F. (2011). PTSD symptoms and sexual harassment: The role of attributions and perceived control. *Journal of Interpersonal Violence*, *26*(13), 2555-2567. https://doi.org/10.1177/0886260510388284

Lees, S. (2002). *Carnal knowledge: Rape on trial.* London: Women's Press.

Levine, L. J. (1997). Reconstructing memory for emotions. *Journal of Experimental Psychology: General*, *126*(2), 165-177. https://psycnet.apa.org/buy/1997-06156-004

Lewis, F. M., & Daltroy, L. H. (1990). How causal explanations influence health behavior: Attribution theory. In K. Glanz, F. M. Lewis, & B. K. Rimer (Eds.), *Health behavior and health education: Theory, research, and practice* (pp. 92–114). Jossey-Bass/Wiley.

Little, L., & Hamby, S. L. (1999). Gender differences in sexual abuse outcomes and recovery experiences: A survey of therapist-survivors. *Professional Psychology: Research and Practice*, *30*(4), 378-385. https://doi.org/10.1037/0735-7028.30.4.378

Littleton, H. (2007). An evaluation of the coping patterns of rape victims: Integration with a schema-based information-processing model. *Violence Against Women*, *13*(8), 789-801. https://doi.org/10.1177/1077801207304825

*Littleton, H., & Breitkopf, C. R. (2006). Coping with the experience of rape. *Psychology of Women Quarterly*, *30*(1), 106-116. https://doi.org/10.1111/j.1471-6402.2006.00267.x

Littleton, H., Horsley, S., John, S., & Nelson, D. V. (2007). Trauma coping strategies and psychological distress: A meta-analysis. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies*, *20*(6), 977-988. https://doi.org/10.1002/jts.20276

Long, L. M., Ullman, S. E., Starzynski, L. L., Long, S. M., & Mason, G. E. (2007). Age and educational differences in African American women's sexual assault experiences. *Feminist Criminology*, *2*(2), 117-136. https://doi.org/10.1177/1557085106296583

Lonsway, K., & Fitzgerald, L. (1994). Attitudinal antecedents of rape myth acceptance: A theoretical and empirical re-examination. *Journal of Personality and Social Psychology*, *68*, 704-711. https://doi.org/10.1037/0022-3514.68.4.704

Louangrath, P.I. and Sutanapong, C. (2018). Validity and Reliability of Survey Scales. *International Journal of Research & Methodology in Social Science*, *4*(4), 99-114. https://doi.org/10.5281/zenodo.2545006

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour research and therapy*, *33*(3), 335-343. https://doi.org/10.1016/0005-7967(94)00075-U

Lynch, K. R., Wasarhaley, N. E., Golding, J. M., & Simcic, T. (2013). Who bought the drinks? Juror perceptions of intoxication in a rape trial. *Journal of Interpersonal Violence*, *28*(16), 3205-3222. https://doi.org/10.1177/0886260513496900

Maheux, A., & Price, M. (2015). Investigation of the relation between PTSD symptoms and self-compassion: Comparison across DSM IV and DSM 5 PTSD symptom clusters. *Self and Identity*, *14*(6), 627-637. https://doi.org/10.1080/15298868.2015.1037791

Matheson, K., Skomorovsky, A., Fiocco, A., & Anisman, H. (2007). The limits of 'adaptive'coping: Well-being and mood reactions to stressors among women in

abusive dating relationships. *Stress*, *10*(1), 75-91. https://doi.org/10.1080/10253890701208313

McAuley, E., Duncan, T. E., & Russell, D. W. (1992). Measuring causal attributions: The revised causal dimension scale (CDSII). *Personality and Social Psychology Bulletin, 18*(5), 566-573. https://doi.org/10.1177/0146167292185006

McCallum, E. B., & Peterson, Z. D. (2017). Women's self-report of sexual victimization: An experimental examination of the influence of race, mode of inquiry, setting, and researcher contact. *Violence Against Women, 23*(7), 850-870. https://doi.org/10.1177/1077801216651338

McCauley, E., & Duncan, T. (1990). The causal attribution process in sport and physical activity. In Graham, S. & Folkes, V. S. (Eds). *Attribution Theory: Applications to Achievement, Mental Health and Interpersonal Conflict,* (pp.37-52). Psychology Press.

McElheran, M., Briscoe-Smith, A., Khaylis, A., Westrup, D., Hayward, C., & Gore-Felton, C. (2012). A conceptual model of post-traumatic growth among children and adolescents in the aftermath of sexual abuse. *Counselling Psychology Quarterly*, *25*(1), 73-82. https://doi.org/10.1080/09515070.2012.665225

McGrew, K. S., & Woodcock, R. W. (2001). *Technical manual.* Woodcock-Johnson III.

McNally, R. J. (2004). Is traumatic amnesia nothing but psychiatric folklore? *Cognitive behaviour therapy, 33*(2), 97-101. https://doi.org/10.1080/16506070410021683

McWilliams, K., Goodman, G. S., Lyons, K. E., Newton, J., & Avila-Mora, E. (2014). Memory for child sexual abuse information: Simulated memory error and individual differences. *Memory & cognition, 42(*1), 151-163. https://doi.org/10.3758/s13421-013-0345-2

Menard, S. (1995). An introduction to logistic regression diagnostics. *Applied Logistic Regression Analysis, 2,* 58-79. https://dx.doi.org/10.4135/9781412983433.n4

Meyer, C. B., & Taylor, S. E. (1986). Adjustment to rape. *Journal of Personality and Social Psychology*, *50*(6), 1226-1234. https://doi.org/10.1037/0022-3514.50.6.1226

Ministry of Justice (2013). *An overview of sexual offending in England and Wales.* London: Home Office.

Mirowsky, J., & Ross, C. E. (1990). Control or defense? Depression and the sense of control over good and bad outcomes. *Journal of health and social behavior*, 31(1), 71-86. https://doi.org/10.2307/2137046

Mohler-Kuo, M., Dowdall, G. W., Koss, M. P., & Wechsler, H. (2004). Correlates of rape while intoxicated in a national sample of college women. *Journal of studies on alcohol*, *65*(1), 37-45. https://doi.org/10.15288/jsa.2004.65.37

Moor, A., & Farchi, M. (2011). Is rape-related self blame distinct from other post traumatic attributions of blame? A comparison of severity and implications for treatment. *Women & Therapy*, *34*(4), 447-460. https://doi.org/10.1080/02703149.2011.591671

Myers, R. H. (1990). *Classical and Modern Regression with Applications*. Belmont, CA: Duxbury press.

Myhill, A., & Allen, J. (2002). *Rape and sexual assault of women: the extent and nature of the problem. Findings from the British Crime Survey.* London: Home Office.

*Najdowski, C. J., & Ullman, S. E. (2009). Prospective effects of sexual victimization on PTSD and problem drinking. *Addictive behaviors*, *34*(11), 965-968. https://doi.org/10.1016/j.addbeh.2009.05.004

Neville, H. A., & Heppner, M. J. (1999). Contextualizing rape: Reviewing sequelae and proposing a culturally inclusive ecological model of sexual assault recovery. *Applied and Preventive Psychology*, *8*(1), 41-62. https://doi.org/10.1016/S0962-1849(99)80010-9

Newton, J. W., & Hobbs, S. D. (2015). Simulating memory impairment for child sexual abuse. *Behavioral sciences & the law*, *33*(4), 407-428. https://doi.org/10.1002/bsl.2197

Office for National Statistics. (2018). *Sexual offences in England and Wales.* London: Home Office.

Palmer, F. T., Flowe, H. D., Takarangi, M. K., & Humphries, J. E. (2013). Intoxicated witnesses and suspects: an archival analysis of their involvement in criminal case processing. *Law and Human Behavior*, *37*(1), 54-59. https://doi.org/10.1037/lhb0000010

Papendick, M., & Bohner, G. (2017). "Passive victim–strong survivor"? Perceived meaning of labels applied to women who were raped. *PLoS one*, *12*(5), Article: e0177550. https://doi.org/10.1371/journal.pone.0177550

Paz-Alonso, P. M., & Goodman, G. S. (2008). Trauma and memory: Effects of post-event misinformation, retrieval order, and retention interval. *Memory*, *16*(1), 58-75. https://doi.org/10.1080/09658210701363146

Pearlman, L. A., McCann, L., & Johnson, G. (1990). *The McPearl Belief Scale: A new measure of cognitive schemas*. Unpublished manuscript, Traumatic Stress Institute, South Windsor, CT.

*Peter-Hagene, L. C., & Ullman, S. E. (2014). Social reactions to sexual assault disclosure and problem drinking: Mediating effects of perceived control and PTSD. *Journal of*

Interpersonal Violence, *29*(8), 1418-1437. https://doi.org/10.1177/0886260513507137

*Peter-Hagene, L. C., & Ullman, S. E. (2018). Longitudinal effects of sexual assault victims' drinking and self-blame on posttraumatic stress disorder. *Journal of Interpersonal Violence*, *33*(1), 83-93. https://doi.org/10.1177/0886260516636394

Peterson, C., & Seligman, M. E. (1983). Learned helplessness and victimization. *Journal of Social Issues, 39*(2), 103-116. https://doi.org/10.1111/j.1540-4560.1983.tb00143.x

Popham, W. J. (1999). Why standardized tests don't measure educational quality. *Educational Leadership, 56*, 8-16. http://cepd410101.pbworks.com/w/file/fetch/48464721/measure.doc

Porter, S., & Birt, A. R. (2001). Is traumatic memory special? A comparison of traumatic memory characteristics with memory for other emotional life experiences. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, *15*(7), 101-117. https://doi.org/10.1002/acp.766

Pyszczynski, T., & Greenberg, J. (1987). Toward an integration of cognitive and motivational perspectives on social inference: A biased hypothesis-testing model. *Advances in Experimental Social Psychology, 20*, 297-340. https://doi.org/10.1016/S0065-2601(08)60417-7

Pyszczynski, T., Hamilton, J. C., Herring, F. H., & Greenberg, J. (1989). Depression, self-focused attention, and the negative memory bias. *Journal of Personality and Social Psychology*, *57*(2), 351-257. https://doi.org/10.1037/0022-3514.57.2.351

Quinless, F. W., & Nelson, M. M. (1988). Development of a measure of learned helplessness. *Nursing Research*, *37*(1), 11-15. https://doi.org/10.1097/00006199-198801000-00003

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401. https://doi.org/10.1177/014662167700100306

*Reich, C. M., Jones, J. M., Woodward, M. J., Blackwell, N., Lindsey, L. D., & Beck, J. G. (2015). Does self-blame moderate psychological adjustment following intimate partner violence? *Journal of Interpersonal Violence*, *30*(9), 1493-1510. https://doi.org/10.1177/0886260514540800

Resick, P. A., & Schnicke, M. K. (1992). Cognitive processing therapy for sexual assault victims. *Journal of Consulting and Clinical Psychology*, *60*(5), 748-756. https://doi.org/10.1037/0022-006X.60.5.748

Reynolds, C. R. (2002). *Comprehensive trail making test (CTMT).* Austin, TX: Pro-Ed.

Rohsenow, D. J. (1983). Drinking habits and expectancies about alcohol's effects for self versus others. *Journal of Consulting and Clinical Psychology*, *51*(5), 752-756. https://doi.org/10.1037/0022-006X.51.5.752

Rose, A. K., & Duka, T. (2008). Effects of alcohol on inhibitory processes. *Behavioural Pharmacology*, *19*(4), 284-291. https://doi.org/10.1097/FBP.0b013e328308f1b2

Rosenberg, M. (1979). *Conceiving the Self.* New York: Basic Books.

Rubin, D. C., Boals, A., & Berntsen, D. (2008). Memory in posttraumatic stress disorder: properties of voluntary and involuntary, traumatic and nontraumatic autobiographical memories in people with and without posttraumatic stress disorder symptoms. *Journal of Experimental Psychology: General*, *137*(4), 591-614. https://doi.org/10.1037/a0013165

Rubin, D. C., Boals, A., & Klein, K. (2010). Autobiographical memories for very negative events: The effects of thinking about and rating memories. *Cognitive Therapy and Research, 34*(1), 35-48.

Rubin, D. C., Feldman, M. E., & Beckham, J. C. (2004). Reliving, emotions, and fragmentation in the autobiographical memories of veterans diagnosed with PTSD. *Applied Cognitive Psychology, 18*, 17-35. https://doi.org/10.1007/s10608-008-9226-6

Rubin, D. C., Schrauf, R. W., & Greenberg, D. L. (2003). Belief and recollection of autobiographical memories. *Memory & Cognition*, *31*(6), 887-901. https://doi.org/10.3758/BF03196443

Russell, D. (1982). The Causal Dimension Scale: A measure of how individuals perceive causes. *Journal of Personality and Cocial Psychology*, *42*(6), 1137-1145. https://doi.org/10.1037/0022-3514.42.6.1137

Scaife, J. C., & Duka, T. (2009). Behavioural measures of frontal lobe function in a population of young social drinkers with binge drinking pattern. *Pharmacology Biochemistry and Behavior*, *93*(3), 354-362. https://doi.org/10.1016/j.pbb.2009.05.015

Schmucker, C. M., Blümle, A., Schell, L. K., Schwarzer, G., Oeller, P., Cabrera, L., ... & OPEN consortium. (2017). Systematic review finds that study data not published in full text articles have unclear impact on meta-analyses results in medical research. *PloS one*, *12*(4), Article: e0176210. https://doi.org/10.1371/journal.pone.0176210

Schreiber Compo, N., Evans, J. R., Carol, R. N., Kemp, D., Villalba, D., Ham, L. S., & Rose, S. (2011). Alcohol intoxication and memory for events: A snapshot of alcohol

myopia in a real-world drinking scenario. *Memory*, *19*(2), 202-210. https://doi.org/10.1080/09658211.2010.546802

Selzer, M. L. (1971). The Michigan Alcoholism Screening Test: The quest for a new diagnostic instrument. *American Journal of Psychiatry*, *127*(12), 1653-1658. https://doi.org/10.1176/ajp.127.12.1653

Shrout, P. E., Dohrenwend, B. P., & Levav, I. (1986). A discriminant rule for screening cases of diverse diagnostic types: preliminary results. *Journal of Consulting and Clinical Psychology, 54*(3), 314-319. https://doi.org/10.1037/0022-006X.54.3.314

*Sigurvinsdottir, R., & Ullman, S. E. (2015). Social reactions, self-blame, and problem drinking in adult sexual assault survivors. *Psychology of Violence*, *5*(2), 192-198. https://doi.org/10.1037/a0036316

Sims, C. M., Noel, N. E., & Maisto, S. A. (2007). Rape blame as a function of alcohol presence and resistance type. *Addictive Behaviors, 32*, 2766-2775. https://doi.org/10.1016/j.addbeh.2007.04.013

Singh, J. (2013). Critical appraisal skills programme. *Journal of Pharmacology and Pharmacotherapeutics*, *4*(1), 76-77. https://doi.org/10.4103/0976-500X.107697

Sjøgren, P., Thomsen, A. B., & Olsen, A. K. (2000). Impaired neuropsychological performance in chronic nonmalignant pain patients receiving long-term oral opioid therapy. *Journal of Pain and Symptom Management*, *19*(2), 100-108. https://doi.org/10.1016/S0885-3924(99)00143-8

Sleath, E., & Bull, R. (2017). Police perceptions of rape victims and the impact on case decision making: A systematic review. *Aggression and Violent Behavior*, *34*, 102-112. https://doi.org/10.1016/j.avb.2017.02.003

Sorenson, S. B., & Taylor, C. A. (2005). Female aggression toward male intimate partners: An examination of social norms in a community-based sample. *Psychology of Women Quarterly*, *29*(1), 78-96. https://doi.org/10.1016/j.avb.2017.02.003

*Starzynski, L. L., Ullman, S. E., Filipas, H. H., & Townsend, S. M. (2005). Correlates of women's sexual assault disclosure to informal and formal support sources. *Violence and Victims*, *20*(4), 417-432. http://doi.org/10.1891/0886-6708.20.4.417

*Starzynski, L. L., Ullman, S. E., Townsend, S. M., Long, L. M., & Long, S. M. (2007). What factors predict women's disclosure of sexual assault to mental health professionals?.*Journal of Community Psychology*, *35*(5), 619-638. https://doi.org/10.1002/jcop.20168

Steele, C. M., & Josephs, R. A. (1990). Alcohol myopia: Its prized and dangerous effects. *American Psychologist*, *45*(8), 921-933. https://doi.org/10.1037/0003-066X.45.8.921

Stein, M. B., & Barrett-Connor, E. (2000). Sexual assault and physical health: Findings from a population-based study of older adults. *Psychosomatic Medicine*, *62*(6), 838-843. https://journals.lww.com/psychosomaticmedicine/Abstract/2000/11000/Sexual_Assault_and_Physical_Health__Findings_From.14.aspx

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of Family Issues*, *17*(3), 283-316. https://doi.org/10.1177/019251396017003001

Streiner, D. L. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. *Journal of Personality Assessment*, *80*(1), 99-103. https://doi.org/10.1207/S15327752JPA8001_18

Studenmund, A. and H. Cassidy. (1987). *Using Econometrics.* Boston: Little, Brown and Company.

Suengas, A. G., & Johnson, M. K. (1988). Qualitative effects of rehearsal on memories for perceived and imagined complex events. *Journal of Experimental Psychology: General, 117,* 377–389. https://doi.org/10.1037/0096-3445.117.4.377

Sundin, E. C., & Horowitz, M. J. (2002). Impact of Event Scale: psychometric properties. *The British Journal of Psychiatry*, *180*(3), 205-209. https://doi.org/10.1192/bjp.180.3.205

Taylor, S. (2017). *Clinician's guide to PTSD: A cognitive-behavioral approach*. Guilford Publications.

Tedeschi, R. G. (1999). Violence transformed: Posttraumatic growth in survivors and their societies. *Aggression and Violent Behavior, 4,* 319– 341. https://doi.org/10.1016/S1359-1789(98)00005-6http://dx.doi.org/10.1016/S1359-1789(98)00005-6

Tedeschi, R. G., & Calhoun, L. G. (2004). A clinical approach to posttraumatic growth. *Positive Psychology in Practice,* 405-419. https://www.researchgate.net/profile/Julian-Barling/publication/232553222_Leading_Well_Transformational_Leadership_and_Well-Being/links/59f7575baca272607e2d7da9/Leading-Well-Transformational-Leadership-and-Well-Being.pdf#page=429

Testa, M., Fillmore, M. T., Norris, J., Abbey, A., Curtin, J. J., Leonard, K. E., ... Hayman, L. W. (2006). Understanding alcohol expectancy effects: Revisiting the placebo condition. *Alcoholism Clinical and Experimental Research, 30,* 339–348. https://doi.org/10.1111/j.1530-0277.2006.00039.x

Testa, M., VanZile-Tamsen, C., Livingston, J. A., & Buddie, A. M. (2006). The role of women's alcohol consumption in managing sexual intimacy and sexual safety motives. *Journal of Studies on Alcohol, 67*(5), 665-674. https://doi.org/10.15288/jsa.2006.67.665

Tiaden, P., & Thoennes, N. (2000). *Full report of the prevalence, incidence, and consequences of violence against women (Research Report No. NCJ 183781).* Washington, DC: US Department of Justice.

Tobin, D. L., Holroyd, K. A., Reynolds, R. V., & Wigal, J. K. (1989). The hierarchical factor structure of the Coping Strategies Inventory. *Cognitive Therapy and Research, 13*(4), 343-361. https://doi.org/10.1007/BF01173478

Tsong, Y., & Ullman, S. E. (2018). Asian American women sexual assault survivors' choice of coping strategies: The role of post-assault cognitive responses. *Women & Therapy, 41*(3-4), 298-315. https://doi.org/10.1080/02703149.2018.1430340

*Ullman, S. E. (1996). Social reactions, coping strategies, and self-blame attributions in adjustment to sexual assault. *Psychology of Women Quarterly, 20*(4), 505-526. https://doi.org/10.1111/j.1471-6402.1996.tb00319.x

Ullman, S. E. (2000). Psychometric characteristics of the Social Reactions Questionnaire: A measure of reactions to sexual assault victims. *Psychology of Women Quarterly, 24*(3), 257-271. https://doi.org/10.1111/j.1471-6402.2000.tb00208.x

Ullman, S. E., & Brecklin, L. R. (2002). Sexual assault history and suicidal behavior in a national sample of women. *Suicide and Life-Threatening Behavior, 32*(2), 117-130. https://guilfordjournals.com/doi/abs/10.1521/suli.32.2.117.24398

*Ullman, S. E., & Najdowski, C. J. (2011). Prospective changes in attributions of self-blame and social reactions to women's disclosures of adult sexual assault. *Journal of*

Interpersonal Violence, *26*(10), 1934-1962. https://doi.org/10.1177/0886260510372940

*Ullman, S. E., Filipas, H. H., Townsend, S. M., & Starzynski, L. L. (2006). Correlates of comorbid PTSD and drinking problems among sexual assault survivors. *Addictive behaviors*, *31*(1), 128-132. https://doi.org/10.1016/j.addbeh.2005.04.002

*Ullman, S. E., Filipas, H. H., Townsend, S. M., & Starzynski, L. L. (2007). Psychosocial correlates of PTSD symptom severity in sexual assault survivors. *Journal of traumatic stress*, *20*(5), 821-831. https://doi.org/10.1002/jts.20290

*Ullman, S. E., Townsend, S. M., Filipas, H. H., & Starzynski, L. L. (2007). Structural models of the relations of assault severity, social support, avoidance coping, self-blame, and PTSD among sexual assault survivors. *Psychology of Women Quarterly*, *31*(1), 23-37. https://doi.org/10.1111/j.1471-6402.2007.00328.x

Van Oorsouw, K., Merckelbach, H., & Smeets, T. (2015). Alcohol intoxication impairs memory and increases suggestibility for a mock crime: A field study. *Applied Cognitive Psychology*, *29*(4), 493-501. https://doi.org/10.1002/acp.3129

Veit, C. T., & Ware, J. E. (1983). The structure of psychological distress and well-being in general populations. *Journal of Consulting and Clinical Psychology*, *51*(5), 730-742. https://doi.org/10.1037/0022-006X.51.5.730

Vickers, A. J., & Smith, C. (2000). Incorporating data from dissertations in systematic reviews. *International Journal of Technology Assessment in Health Care*, *16*(2), 711-713. https://doi.org/10.1017/S0266462300101278

Vidal, M. E., & Petrak, J. (2007). Shame and adult sexual assault: A study with a group of female survivors recruited from an East London population. *Sexual and Relationship Therapy*, *22*(2), 159-171. https://doi.org/10.1080/14681990600784143

Walker, W. R., Skowronski, J. J., & Thompson, C. P. (2003). Life is pleasant—and memory helps to keep it that way!.*Review of General Psychology, 7*(2), 203-210. https://doi.org/10.1037/1089-2680.7.2.203

Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). T*he PTSD checklist for DSM-5 (PCL-5).* National Center for PTSD: www.ptsd.va.gov

Weaver, T. L., & Clum, G. A. (1995). Psychological distress associated with interpersonal violence: A meta-analysis. *Clinical Psychology Review, 15*(2), 115-140. https://doi.org/10.1016/0272-7358(95)00004-9

Weiner, B. (Ed.). (1974). *Achievement motivation and attribution theory*. General Learning Press.

Weissman, M. M., & Bothwell, S. (1976). Assessment of social adjustment by patient self-report. *Archives of General Psychiatry, 33*(9), 1111-1115. https://doi.org/10.1001/archpsyc.1976.01770090101010

Wicklund, R. A. (1975). Objective self-awareness. *Advances in Experimental Social Psychology, 8,* 233-275. https://doi.org/10.1016/S0065-2601(08)60252-X

Williams, L. M. (1994). Recall of childhood trauma: a prospective study of women's memories of child sexual abuse. *Journal of Consulting and Clinical Psychology, 62(*6), 1167-1176. https://doi.org/10.1037/0022-006X.62.6.1167

Wilson, J. P. (2007). The Lens of Culture: Theoretical and Conceptual Perspectives in the Assessment of Psychological Trausma and PTSD. *Cross-cultural assessment of Psychological Trauma and PTSD,* 3-30. https://doi.org/10.1007/978-0-387-70990-1_1

Wilson, J. P., & Drozdek, B. (2004). *Broken spirits: The Treatment of Traumatized Asylum Seekers, Refugees and War and Torture Victims*. Routledge.

Woltman, H., Feldstain, A., MacKay, J. C., & Rocchi, M. (2012). An introduction to hierarchical linear modeling. *Tutorials in Quantitative Methods for Psychology*, *8*(1), 52-69. http://modir3-3.ir/article-english/article-m2568.pdf

Zeng, X., Zhang, Y., Kwong, J. S., Zhang, C., Li, S., Sun, F., ... & Du, L. (2015). The methodological quality assessment tools for preclinical and clinical studies, systematic review and meta-analysis, and clinical practice guideline: a systematic review. *Journal of Evidence-Based Medicine*, *8*(1), 2-10. https://doi.org/10.1111/jebm.12141

*= papers included within the Systematic Literature Review (Chapter 2).

APPENDICES

Appendix A: *Table showing applied PIO criteria*

Inclusion/Exclusion Criteria: Applied to full article

Studies				PIO CRITERIA				Outcome	
No.	**Author(s)**	**Year**	**Title**	**POPULATION**	**INTERVENING VARIABLE**	**OUTCOME**	**OTHER**	**Included/Excluded**	**Reasons for exclusion**
1	Ahrens	2006	Being silenced: The impact of negative social reactions on the disclosure of rape	Y	N	Y	Y	Excluded	Didn't specifically address blame attributions- conclusions made
2	Anderson & Overby	2020	Barriers in seeking support: Perspectives of service providers who are survivors of sexual violence.	Y	N	N	N	Excluded	Didn't specifically assess blame or measure outcomes. No comparisons made
3	Angeles De La Cruz et al.	2015	Maladaptive beliefs, coping strategies, and social support as predictive factors of psychopathological vulnerability in female victims of sexual assault	Y	Y	Y	N	Excluded	Full article not available in English, only abstract and summary
4	Arata & Burkhart	1995	Post-traumatic stress disorder among college student victims of acquaintance assault.	-	-	-	-	Excluded	Can't access article
5	Blain et al.	2011	Female Sexual Self-Schema After Interpersonal Trauma: Relationship to Psychiatric and Cognitive Functioning in a Clinical Treatment-Seeking Sample	Y	Y	Y	N	Excluded	Didn't separate out sexual assault for physical in analysis
6	Branscombe et al.	2003	Counterfactual thinking, blame assignment, and well-being in rape victims	Y	Y	Y	Y	Included	
7	Brietenbecher	2006	The Relationships Among Self-Blame, Psychological Distress, and Sexual Victimization.	Y	Y	Y	Y	Included	
8	DePrince et al.	2014	Longitudinal Predictors of Women's Experiences of Social Reactions Following Intimate Partner Abuse	Y	N	Y	N	Excluded	Physical assault focused- not sexual. Didn't specifically measure blame attributions
9	Donde	2017	College women's assignment of blame versus responsibility for sexual assault experiences	Y	Y	Y	Y	Included	
10	Edwards et al.	2015	Informal Social Reactions to College Women's Disclosure of Intimate Partner Violence: Associations With Psychological and Relational Variables	Y	N	Y	Y	Excluded	Didn't specifically address blame attributions- conclusions made

No.	Author(s)	Year	Title	POPULATION	INTERVENING VARIABLE	OUTCOME	OTHER	Included/Excluded	Reasons for exclusion
11	Edwards et al.	2020	Predictors of Disclosure Recipients' Social Reactions to Victims' Disclosures of Dating and Sexual Violence: A Longitudinal Study of College Students	N	N	N	N	Excluded	Assessed perspective of disclosure recipient not the assaulted
12	Flicker et al.	2012	Depressive and Posttraumatic Symptoms Among Women Seeking Protection Orders Against Intimate Partners: Relations to Coping Strategies and Perceived Responses to Abuse Disclosure	Y	Y	Y	Y	Excluded	Didn't separate out sexual assault from other forms of IPV in analysis
13	Forkus et al.	2020	PTSD's Blame Criterion and Mental Health Outcomes in a Community Mental Health Treatment-Seeking Sample	N	Y	Y	Y	Excluded	Considered both genders and range of trauma in analysis
14	Frazier	1990	Victim attributions and post-rape trauma.	Y	Y	Y	Y	Included	
15	Frazier	2003	Perceived control and distress following sexual assault: a longitudinal test of a new model.	Y	Y	Y	Y	Included	
16	Graham et al.	2019	Sexual Assault, Campus Resource Use, and Psychological Distress in Undergraduate Women.	Y	Y	Y	Y	Included	
17	Hamrick & Owens	2019	Exploring the mediating role of self-blame and coping in the relationships between self-compassion and distress in females following the sexual assault	Y	Y	Y	Y	Included	
18	Harris et al.	2020	Multiple perpetrator sexual assault: Correlates of ptsd and depressive symptoms in a sample of adult women	Y	Y	Y	Y	Included	
19	Hill & Zautra	1989	Self-blame attributions and unique vulnerability as predictors of post-rape demoralization.	Y	Y	Y	Y	Included	
20	Janoff-Bulman	1979	Characterological versus behavioral self-blame: Inquiries into depression and rape.	N	Y	Y	Y	Excluded	Used scenarios rather than sexual trauma victims
21	Koss et al.	2002	Cognitive mediation of rape's mental, physical, and social health impact: Tests of four models in cross-sectional data.	Y	Y	Y	Y	Included	

No.	Author(s)	Year	Title	POPULATION	INTERVENING VARIABLE	OUTCOME	OTHER	Included/Excluded	Reasons for exclusion
22	Koss & Figueredo	2004a	"Change in cognitive mediators of rape's impact on psychosocial health across 2 years of recovery": Correction to Koss and Figueredo (2004).	Y	Y	Y	Y	Included	
23	Koss & Figueredo	2004b	"Cognitive Mediation of Rape's Mental Health Impact: Constructive Replication of a Cross Sectional Model in Longitudinal Data": Errata.	Y	Y	Y	Y	Included	
24	Larsen & Fitzgerald	2011	PTSD Symptoms and Sexual Harassment: The Role of Attributions and Perceived Control	Y	Y	Y	Y	Excluded	Not all sample experienced sexual harassment, and some was only 'discrimination'
25	Littleton et al.	2009	Impaired and incapacitated rape victims: Assault characteristics and post-assault experiences.	Y	Y	Y	N	Excluded	Didn't compare comparator to outcome
26	Littleton & Breitkopf	2006	Coping with the experiences of rape	Y	Y	Y	Y	Included	
27	Moor et al.	2013	Rape: A Trauma of Paralyzing Dehumanization	N	Y	Y	N	Excluded	Men in sample, results compared to different trauma types, Israeli sanple
28	Moschella et al.	2018	Posttraumatic Growth as a Mediator of Self-Blame and Happiness in the Context of Interpersonal Violence	-	-	-	-	Excluded	Can't access article
29	Najdowski & Ullman	2009	PTSD symptoms and self-rated recovery among adult sexual assault survivors: The effects of traumatic life events and psychosocial variables.	Y	Y	Y	Y	Included	
30	O'Callaghan & Ullman	2020	Differences in Women's Substance-Related Sexual Assaults: Force, Impairment, and Combined Assault Types	Y	Y	Y	N	Excluded	Self-blame treated as outcome measure rather than predictor
31	Peter-Hagene and Ullman	2015	"Sexual assault-characteristics effects of PTSD and psychosocial mediators: A cluster-analysis approach to sexual assault types": Correction to Peter-Hagene and Ullman (2014).	Y	Y	Y	Y	Included	
32	Peter-Hagene and Ullman	2016	Longitudinal Effects of Sexual Assault Victims' Drinking and Self-Blame on Posttraumatic Stress Disorder	Y	Y	Y	Y	Included	

No.	Author(s)	Year	Title	POPULATION	INTERVENING VARIABLE	OUTCOME	OTHER	Included/Excluded	Reasons for exclusion
33	Reich et al.	2015	Does self-blame moderate psychological adjustment following intimate partner violence?	Y	Y	Y	Y	Included	
34	Relyea & Ullman	2015	Unsupported or Turned Against: Understanding How Two Types of Negative Social Reactions to Sexual Assault Relate to Postassault Outcomes	Y	Y	Y	N	Excluded	Blame treated as outcome measure rather an comparator
35	Sigurvinsdottir & Ullman	2015	Social Reactions, Self-Blame, and Problem Drinking in Adult Sexual Assault Survivors	Y	Y	Y	Y	Included	
36	Starzynski et al.	2007	What factors predict women's disclosure of sexual assault to mental health professionals?	Y	Y	Y	Y	Included	
37	Starzynski et al.	2005	Correlates of Women's Sexual Assault Disclosure to Informal and Formal Support Sources.	Y	Y	Y	Y	Included	
38	Tran & Beck	2019	Are Peritraumatic Perceptions of Fear/Life Threat and Posttraumatic Negative Self-Conscious Appraisals/Emotions Differentially Associated with PTSD Symptoms?.	Y	Y	Y	N	Excluded	Didn’t separate sexual trauma in analysis
39	Ullman et al.	2006	Correlates of comorbid PTSD and drinking problems among sexual assault survivors	Y	Y	Y	Y	Included	
40	Ullman et al.	2007	Psychosocial correlates of PTSD symptom severity in sexual assault survivors.	Y	Y	Y	Y	Included	
41	Ullman	1996	Social reactions, coping strategies, and self-blame attributions in adjustment to sexual assault.	Y	Y	Y	Y	Included	
42	Ullman & Najdowski	2011	Prospective Changes in Attributions of Self-Blame and Social Reactions to Women's Disclosures of Adult Sexual Assault	Y	Y	Y	Y	Included	
43	Ullman & Relyea	2016	Social Support, Coping, and Posttraumatic Stress Symptoms in Female Sexual Assault Survivors: A Longitudinal Analysis	Y	N	Y	N	Excluded	Didn’t specifically address blame attributions- only considered as strategy in Brief COPE scale. Not explored separately in analysis

No.	Author(s)	Year	Title	POPULATION	INTERVENING VARIABLE	OUTCOME	OTHER	Included/Excluded	Reasons for exclusion
44	Ullman et al.	2007	Structural models of the relations of assault severity, social support, avoidance coping, self-blame, and PTSD among sexual assault survivors	Y	Y	Y	Y	Included	
45	Van Wormer	2004	The impact of priest sexual abuse: Female survivors' narratives	Y	N	N	N	Excluded	Didn't specifically measure blame or outcomes, or the relationship between the two
46	Vidal & Petrak	2007	Shame and adult sexual assault: A study with a group of female survivors recruited from an East London population.	Y	Y	Y	Y	Included	
47	Wright & Fitzgerald	2007	Angry and afraid: Women's appraisal of sexual harassment during litigation	Y	Y	N	Y	Excluded	Considered predictors of blame attributions, but not outcomes of blame attributions
48	Wyatt et al.	1990	Internal and external mediators of women's rape experiences.	N	Y	Y	Y	Excluded	Ethnic minority population due to recognised differences in rape outcomes

Appendix B: ***Original CASP Case Control and Cohort checklists (before editing for SLR)***

CASP Checklist: 11 questions to help you make sense of a <u>Case Control Study</u>

1. Are the results of the study valid? (Section A)
2. What are the results? (Section B)
3. Will the results help locally? (Section C)

Section A:

1. Did the study address a clearly focused issue?
   Yes / Can't tell / No
1. Comments:

2. Did the authors use an appropriate method to answer their question?
   Yes / Can't tell / No
3. Comments:

Is it worth continuing?

4. Were the case recruited in an acceptable way?
   Yes / Can't tell / No
5. Comments:

6. Were the controls selected in an acceptable way?
   Yes / Can't tell / No
7. Comments

8. Was the exposure accurately measured to minimise bias?
   Yes / Can't tell / No
9. Comments

10. a- Aside from the experimental intervention, were the groups treated equally?
    Yes / Can't tell / No
11. Comments

1. b- Have the authors taken account of the potential confounding factors in their design and/or analysis?
   Yes / Can't tell / No
2. Comments

Section B:

3. How large was the treatment effect?
4. Comments

5. How precise was the estimate of the treatment effect?
6. Comments

7. Do you believe the results?
8. Comments

Section C:

9. Can the results be applied to the local population?
   Yes / Can't tell / No
10. Comments

11. Do the results of this study fit with other available evidence?
    Yes / Can't tell / No
12. Comments

CASP Checklist: 11 questions to help you make sense of a <u>Cohort Study</u>

13. Are the results of the study valid? (Section A)
14. What are the results? (Section B)
15. Will the results help locally? (Section C)

Section A:

1. Did the study address a clearly focused issue?
   Yes / Can't tell / No
2. Comments:

3. Was the cohort recruited an acceptable way?
   Yes / Can't tell / No
4. Comments:

Is it worth continuing?

5. Was the exposure accurately measured to minimise bias?
   Yes / Can't tell / No
6. Comments:

7. Was the outcome accurately measured to minimise bias?
   Yes / Can't tell / No
8. Comments

9. a- Have the authors identified all important confounding factors?
   Yes / Can't tell / No

10. Comments

1. b- Have they taken account of the confounding factors in the design and/or analysis?
   Yes / Can't tell / No
2. Comments

3. a- Was the follow up on subjects complete enough?
   Yes / Can't tell / No
4. Comments

5. b- Was the follow up of subjects long enough?
   Yes / Can't tell / No
6. Comments

Section B:

7. What are the results of this study?
8. Comments

9. How precise are the results?
10. Comments

11. Do you believe the results?
    Yes / Can't tell / No
12. Comments

Section C:

13. Can the results be applied to the local population?
    Yes / Can't tell / No
14. Comments

15. Do the results of this study fit with other available evidence?
    Yes / Can't tell / No
16. Comments

17. What are the implications of this study for practice?
    Yes / Can't tell / No
18. Comments

Appendix C: *Table showing Quality Assessment of papers*

Quality Assessment										
Studies				Section A- Quality Check						Outcome
NO.	**Author(s)**	**Year**	**Title**	**Did the study address a clearly focused issue?**	**Did the authors use an appropriate method to answer the question?**	**Were the cases recruited in an acceptable way?**	**Were blame attributions measured accurately to minimise bias?**	**Was the outcome accurately measured to minimise bias?**	**Have the authors taken account of the potential confounding factors in their design or analysis?**	**9 and above to include**
1	Branscombe et al.	2003	Counterfactual thinking, blame assignment, and well-being in rape victims	Yes (2)	Yes (2)	Can't tell (1) – sample considered 17year olds, proportion not mentioned/ethical consideration	No (0) 1-item subjective scale developed by researcher for each attribution. Self-blame treated as one concept	Yes (2)	Yes (2)	9/12 (75%): Include
2	Brietenbecher	2006	The Relationships Among Self-Blame, Psychological Distress, and Sexual Victimization.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Can't tell (1) Only one subscale used for distress in analysis, unclear why	Yes (2)	11/12 (92%): Include
3	Donde	2017	College women's assignment of blame versus responsibility for sexual assault experiences	Can't Tell (1) The study appeared to be exploring blame and responsibility as separate constructs, as well as considering predictor variables for both. But this was unclear	Yes (2)	Yes (2)	No (0) Single item scales for blame, no differentiation between types of self-blame	No (0) Self-blame was only then compared to responsibility, was measured with a single question on 5-point scale	Yes (2)	7/12 (58%): Exclude
4	Frazier	1990	Victim attributions and post-rape trauma.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
5	Frazier	2003	Perceived control and distress following sexual assault: a longitudinal test of a new model.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
6	Grahams et al.	2019	Sexual Assault, Campus Resource Use, and Psychological Distress in Undergraduate Women.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
7	Hamrick & Owens	2019	Exploring the mediating role of self-blame and coping in the relationships between self-compassion and distress in females following the sexual assault	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include

NO.	Author(s)	Year	Title	Did the study address a clearly focused issue?	Did the authors use an appropriate method to answer the question?	Were the cases recruited in an acceptable way?	Were blame attributions measured accurately to minimise bias?	Was the outcome accurately measured to minimise bias?	Have the authors taken account of the potential confounding factors in their design or analysis?	9 and above to include
8	Harris et al.	2020	Multiple perpetrator sexual assault: Correlates of PTSD and depressive symptoms in a sample of adult women	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
9	Hill & Zautra	1989	Self-blame attributions and unique vulnerability as predictors of post-rape demoralization.	Yes (2)	Yes (2)	Can't tell- small sample, possible low power (1)	Can't tell (1) lack of clarity of measure developed by researcher	Yes (2)	Yes (2)	10/12 (83%): Include
10	Koss et al.	2002	Cognitive mediation of rape's mental, physical, and social health impact: Tests of four models in cross-sectional data.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
11	Koss & Figueredo	2004a	"Change in cognitive mediators of rape's impact on psychosocial health across 2 years of recovery": Correction to Koss and Figueredo (2004).	Yes (2)	Yes (2)	Can't tell- small sample (1)	Yes (2)	Yes (2)	Yes (2)	11/12 (92%): Include
12	Koss & Figueredo	2004b	"Cognitive Mediation of Rape's Mental Health Impact: Constructive Replication of a Cross Sectional Model in Longitudinal Data": Errata.	Yes (2)	Yes (2)	Can't tell- small sample (1)	Yes (2)	Yes (2)	Can't tell (1)- small sample not completely considered	10/12 (83%): Include
13	Littleton & Breitkopf	2006	Coping with the experiences of rape	Yes (2)	Yes (2)	Yes (2)	Can't Tell (1) Researcher had to develop self-blame composite due to low aloha coefficients on characterological subscale	Yes (2)	Yes (2)	11/12 (92%): Include
14	Najdowski and Ullman	2009	PTSD symptoms and self-rated recovery among adult sexual assault survivors: The effects of traumatic life events and psychosocial variables.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
15	Peter-Hagene and Ullman	2014	"Sexual assault-characteristics effects of PTSD and psychosocial mediators: A cluster-analysis approach to sexual assault types": Correction to Peter-Hagene and Ullman (2014).	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Can't tell (1)- some factors considered in design but not analysis (e.g. diverse sample)	11/12 (92%): Include

NO.	Author(s)	Year	Title	Did the study address a clearly focused issue?	Did the authors use an appropriate method to answer the question?	Were the cases recruited in an acceptable way?	Were blame attributions measured accurately to minimise bias?	Was the outcome accurately measured to minimise bias?	Have the authors taken account of the potential confounding factors in their design or analysis?	9 and above to include
16	Peter-Hagene and Ullman	2018	Longitudinal Effects of Sexual Assault Victims' Drinking and Self-Blame on Posttraumatic Stress Disorder	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%)- Include
17	Reich et al.	2015	Does self-blame moderate psychological adjustment following intimate partner violence?	Yes (2)	Yes (2)	Can't tell (1)- small sexual abuse sample	Can't Tell (1) PTCI used, one self-blame scale used with 5 items. No differentiation between behavioural or characterological self-blame	Yes (2)	Yes (2)	10/12 (83%): Include
18	Sigurvinsdottir & Ullman	2015	Social Reactions, Self-Blame, and Problem Drinking in Adult Sexual Assault Survivors	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
19	Starzynski et al.	2007	What factors predict women's disclosure of sexual assault to mental health professionals?	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
20	Starzynski et al.	2005	Correlates of Women's Sexual Assault Disclosure to Informal and Formal Support Sources.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
21	Ullman et al.	2006	Correlates of comorbid PTSD and drinking problems among sexual assault survivors	Yes (2)	Can't tell (1)- sample considered non-representative and cross-sectional, suggestion of longitudinal design being more appropriate	Can't tell (1)- sample not particularly representative of population	Can't Tell (1)- Only assessed characterological self-blame, doesn't state why	Yes (2)	Yes (2)	9/12 (75%): Include
22	Ullman et al.	2007	Psychosocial correlates of PTSD symptom severity in sexual assault survivors.	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
23	Ullman	1996	Social reactions, coping strategies, and self-blame attributions in adjustment to sexual assault.	Yes (2)	Yes (2)	Yes (2)	Can't Tell (1)- Single items used for different attributions and then only two items used for self-blame	Yes (2)	Yes (2)	11/12 (92%): Include

NO.	Author(s)	Year	Title	Did the study address a clearly focused issue?	Did the authors use an appropriate method to answer the question?	Were the cases recruited in an acceptable way?	Were blame attributions measured accurately to minimise bias?	Was the outcome accurately measured to minimise bias?	Have the authors taken account of the potential confounding factors in their design or analysis?	9 and above to include
24	Ullman & Najdowski	2011	Prospective Changes in Attributions of Self-Blame and Social Reactions to Women's Disclosures of Adult Sexual Assault	Yes (2)	Can't tell (1) suggests hypothesis for relationship between blame and ptsd- doesn't seem to be measure/explained	Yes (2)	Yes (2)	Yes (2)	Can't tell (1)- unsure if any significant events between each data collection time was considered	10/12 (83%): Include
25	Ullman, Townsend et al.	2007	Structural models of the relations of assault severity, social support, avoidance coping, self-blame, and PTSD among sexual assault survivors	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	Yes (2)	12/12 (100%): Include
26	Vidal & Petrak	2007	Shame and adult sexual assault: A study with a group of female survivors recruited from an East London population.	Yes (2)	Yes (2)	No (0)- small sample, lacked representation, predominatly clinical	No (0)- Measured with one developed item	Can't tell- (1) only linked self-blame measure to shame measure- didn't measure link between self-blame and distress.	Can't tell (1) impact of some factors not considered, e.g. high acquaintance rape numbers	6/12 (50%): Exclude

Appendix D: ***Output for Multivariate Analysis of Variance of dependent variables for Scenario***

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	completeness	.015[a]	3	.005	1.373	.260
	AccuracyFR	.040[b]	3	.013	2.553	.064
	AccuracyQP	.024[c]	3	.008	.224	.880
	RapeAttributionQuestionnaireLikert	101.541[d]	3	33.847	.536	.659
	IEStotal	3.072[e]	3	1.024	.606	.614
	AMQsubjectivememory	284.371[f]	3	94.790	1.228	.308
Intercept	completeness	.965	1	.965	270.041	<.001
	AccuracyFR	53.053	1	53.053	10064.630	<.001
	AccuracyQP	36.916	1	36.916	1015.144	<.001
	RapeAttributionQuestionnaireLikert	28032.836	1	28032.836	444.094	<.001
	IEStotal	1410.226	1	1410.226	834.845	<.001
	AMQsubjectivememory	41602.459	1	41602.459	539.036	<.001
Scenariocoded	completeness	.015	3	.005	1.373	.260
	AccuracyFR	.040	3	.013	2.553	.064
	AccuracyQP	.024	3	.008	.224	.880
	RapeAttributionQuestionnaireLikert	101.541	3	33.847	.536	.659
	IEStotal	3.072	3	1.024	.606	.614
	AMQsubjectivememory	284.371	3	94.790	1.228	.308
Error	completeness	.207	58	.004		
	AccuracyFR	.306	58	.005		
	AccuracyQP	2.109	58	.036		
	RapeAttributionQuestionnaireLikert	3661.168	58	63.124		
	IEStotal	97.974	58	1.689		
	AMQsubjectivememory	4476.403	58	77.179		
Total	completeness	1.219	62			
	AccuracyFR	53.880	62			
	AccuracyQP	39.363	62			
	RapeAttributionQuestionnaireLikert	32122.000	62			
	IEStotal	1524.187	62			
	AMQsubjectivememory	47614.000	62			
Corrected Total	completeness	.222	61			
	AccuracyFR	.346	61			
	AccuracyQP	2.134	61			
	RapeAttributionQuestionnaireLikert	3762.710	61			
	IEStotal	101.046	61			
	AMQsubjectivememory	4760.774	61			

a. R Squared = .066 (Adjusted R Squared = .018)

b. R Squared = .117 (Adjusted R Squared = .071)

c. R Squared = .011 (Adjusted R Squared = -.040)

d. R Squared = .027 (Adjusted R Squared = -.023)

e. R Squared = .030 (Adjusted R Squared = -.020)

f. R Squared = .060 (Adjusted R Squared = .011)

Appendix E: ***SPSS Output- Descriptive and Frequency Statistic***

Expectancycoded

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tonic	30	47.6	47.6	47.6
	Alcohol	33	52.4	52.4	100.0
	Total	63	100.0	100.0	

PlaceboVS_alcohol

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	placebo	31	49.2	49.2	49.2
	alcohol	32	50.8	50.8	100.0
	Total	63	100.0	100.0	

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
RapeAttributionQuestionnaireLikert	63	28	10	38	21.63	8.035
CharacterologicalSelfBlame	63	14	5	19	9.14	3.560
BehaviouralSelfBlame	63	19	5	24	12.49	5.224
IEStotal	63	5.41	3.00	8.41	4.8292	1.31210
AMQsubjectivememory	63	42.00	7.00	49.00	26.3492	8.77526
completeness	63	.30	.00	.30	.1260	.06014
ACCURACY	62	.39	.61	1.00	.8745	.08128
Valid N (listwise)	62					

Appendix F: *Correlations and Scatterplot matrix*

Correlations

		Expectancycoded	PlaceboVS_alcohol	AMQsubjectivememory	IEStotal	CharacterologicalSelfBlame	BehaviouralSelfBlame	RapeAttributionQuestionnaireLikert	completeness
PlaceboVS_alcohol	Pearson Correlation	.079							
	Sig. (2-tailed)	.540							
	N	63							
AMQsubjectivememory	Pearson Correlation	-.166	-.008						
	Sig. (2-tailed)	.193	.951						
	N	63	63						
IEStotal	Pearson Correlation	.025	.078	.259*					
	Sig. (2-tailed)	.845	.543	.041					
	N	63	63	63					
CharacterologicalSelfBlame	Pearson Correlation	.228	.157	.119	.358**				
	Sig. (2-tailed)	.073	.220	.352	.004				
	N	63	63	63	63				
BehaviouralSelfBlame	Pearson Correlation	-.038	.179	.281*	.415**	.661**			
	Sig. (2-tailed)	.766	.160	.026	<.001	<.001			
	N	63	63	63	63	63			
RapeAttributionQuestionnaireLikert	Pearson Correlation	.076	.186	.236	.428**	.873**	.943**		
	Sig. (2-tailed)	.554	.145	.063	<.001	<.001	<.001		
	N	63	63	63	63	63	63		
completeness	Pearson Correlation	-.262*	-.162	.238	-.062	-.352**	-.055	-.191	
	Sig. (2-tailed)	.038	.205	.061	.629	.005	.671	.133	
	N	63	63	63	63	63	63	63	
ACCURACY	Pearson Correlation	-.218	.060	-.055	-.057	-.076	-.077	-.084	.288*
	Sig. (2-tailed)	.088	.645	.671	.662	.558	.552	.517	.023
	N	62	62	62	62	62	62	62	62

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

RapeAttribution QuestionnaireLikert
CharacterologicalSelf Blame
Expectancyc
RapeAttributionQuestionnaireLikert
AMQsubjectivememory
IEStotal
BehaviouralSelfBlame
CharacterologicalSelfBlame
ACCURACY
completeness
PlaceboVS_alcohol
Expectancycoded

Appendix G: *Multiple Regression Analysis SPSS Output (Memory Completeness)*

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PlaceboVS_alcohol, Expectancycoded[b]	.	Enter
2	BehaviouralSelfBlame, CharacterologicalSelfBlame[b]	.	Enter

a. Dependent Variable: completeness

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.298[a]	.089	.058	.05837
2	.461[b]	.212	.158	.05519

a. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded

b. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded, BehaviouralSelfBlame, CharacterologicalSelfBlame

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.020	2	.010	2.914	.062[b]
	Residual	.204	60	.003		
	Total	.224	62			
2	Regression	.048	4	.012	3.909	.007[c]
	Residual	.177	58	.003		
	Total	.224	62			

a. Dependent Variable: completeness

b. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded

c. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded, BehaviouralSelfBlame, CharacterologicalSelfBlame

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.150	.013		11.850	<.001
	Expectancycoded	-.030	.015	-.250	-2.025	.047
	PlaceboVS_alcohol	-.017	.015	-.142	-1.151	.254
2	(Constant)	.176	.021		8.303	<.001
	Expectancycoded	-.015	.015	-.128	-1.029	.308
	PlaceboVS_alcohol	-.015	.014	-.126	-1.063	.292
	CharacterologicalSelfBlame	-.008	.003	-.495	-3.000	.004
	BehaviouralSelfBlame	.003	.002	.291	1.795	.078

a. Dependent Variable: completeness

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CharacterologicalSelfBlame	-.294[b]	-2.383	.020	-.296	.929
	BehaviouralSelfBlame	-.040[b]	-.317	.752	-.041	.965

a. Dependent Variable: completeness

b. Predictors in the Model: (Constant), PlaceboVS_alcohol, Expectancycoded

Appendix H: *Multiple Regression Analysis SPSS Output (Accuracy)*

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PlaceboVS_alcohol, Expectancycoded[b]	.	Enter
2	BehaviouralSelfBlame, CharacterologicalSelfBlame[b]	.	Enter

a. Dependent Variable: ACCURACY

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.230[a]	.053	.021	.08042
2	.256[b]	.065	.000	.08128

a. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded

b. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded, BehaviouralSelfBlame, CharacterologicalSelfBlame

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.021	2	.011	1.654	.200[b]
	Residual	.382	59	.006		
	Total	.403	61			
2	Regression	.026	4	.007	.997	.417[c]
	Residual	.377	57	.007		
	Total	.403	61			

a. Dependent Variable: ACCURACY

b. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded

c. Predictors: (Constant), PlaceboVS_alcohol, Expectancycoded, BehaviouralSelfBlame, CharacterologicalSelfBlame

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.887	.018		50.644	<.001
	Expectancycoded	-.036	.020	-.223	-1.757	.084
	PlaceboVS_alcohol	.012	.020	.074	.584	.561
2	(Constant)	.903	.032		28.597	<.001
	Expectancycoded	-.039	.022	-.244	-1.793	.078
	PlaceboVS_alcohol	.015	.021	.091	.699	.487
	CharacterologicalSelfBlame	.001	.004	.057	.319	.751
	BehaviouralSelfBlame	-.002	.003	-.143	-.809	.422

a. Dependent Variable: ACCURACY

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	CharacterologicalSelfBlame	-.041[b]	-.312	.756	-.041	.938
	BehaviouralSelfBlame	-.105[b]	-.812	.420	-.106	.968

a. Dependent Variable: ACCURACY

b. Predictors in the Model: (Constant), PlaceboVS_alcohol, Expectancycoded

Appendix I: *Multiple Regression Analysis SPSS Output (IES-r)*

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	BehaviouralSelfBlame, CharacterologicalSelfBlame[b]	.	Enter
2	ACCURACY, completeness[b]	.	Enter

a. Dependent Variable: IEStotal

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.434[a]	.189	.161	1.21160
2	.435[b]	.189	.132	1.23235

a. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame

b. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame, ACCURACY, completeness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.129	2	10.064	6.856	.002[b]
	Residual	86.611	59	1.468		
	Total	106.740	61			
2	Regression	20.175	4	5.044	3.321	.016[c]
	Residual	86.565	57	1.519		
	Total	106.740	61			

a. Dependent Variable: IEStotal

b. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame

c. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame, ACCURACY, completeness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.312	.449		7.375	<.001
	CharacterologicalSelfBlame	.057	.058	.152	.980	.331
	BehaviouralSelfBlame	.081	.039	.319	2.057	.044
2	(Constant)	3.612	1.799		2.007	.049
	CharacterologicalSelfBlame	.056	.065	.150	.855	.396
	BehaviouralSelfBlame	.081	.042	.319	1.929	.059
	completeness	-.065	3.122	-.003	-.021	.983
	ACCURACY	-.324	2.043	-.020	-.159	.874

a. Dependent Variable: IEStotal

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	completeness	-.009[b]	-.073	.942	-.010	.823
	ACCURACY	-.021[b]	-.175	.862	-.023	.993

a. Dependent Variable: IEStotal

b. Predictors in the Model: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame

Appendix J: *Multiple Regression Analysis SPSS Output (AMQ)*

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	BehaviouralSelfBlame, CharacterologicalSelfBlame[b]	.	Enter
2	ACCURACY, completeness[b]	.	Enter

a. Dependent Variable: AMQsubjectivememory

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.288[a]	.083	.052	8.57501
2	.410[b]	.168	.110	8.30635

a. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame

b. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame, ACCURACY, completeness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	391.051	2	195.525	2.659	.078[b]
	Residual	4338.320	59	73.531		
	Total	4729.371	61			
2	Regression	796.631	4	199.158	2.887	.030[c]
	Residual	3932.740	57	68.995		
	Total	4729.371	61			

a. Dependent Variable: AMQsubjectivememory

b. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame

c. Predictors: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame, ACCURACY, completeness

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	21.641	3.178		6.810	<.001
	CharacterologicalSelfBlame	-.307	.409	-.124	-.751	.455
	BehaviouralSelfBlame	.596	.278	.353	2.140	.037
2	(Constant)	25.930	12.127		2.138	.037
	CharacterologicalSelfBlame	.141	.439	.057	.321	.750
	BehaviouralSelfBlame	.390	.283	.231	1.380	.173
	completeness	50.611	21.046	.336	2.405	.019
	ACCURACY	-14.049	13.773	-.130	-1.020	.312

a. Dependent Variable: AMQsubjectivememory

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	completeness	.293[b]	2.199	.032	.277	.823
	ACCURACY	-.037[b]	-.297	.767	-.039	.993

a. Dependent Variable: AMQsubjectivememory

b. Predictors in the Model: (Constant), BehaviouralSelfBlame, CharacterologicalSelfBlame

Appendix K: *Alcohol Beliefs Analysis*

The analyses in this appendix replicate those presented in Chapter 3 for memory accuracy and completeness. Those analyses were conducted to test whether self blame accounts for additional variation in memory accuracy and completeness once alcohol expectancy and alcohol consumption are controlled. Recall that previous research using a balanced placebo design, where in alcohol consumption and alcohol expectancy are controlled, has found that memory recall is affected by alcohol expectancy (Flowe et al., 2019). However, participants beliefs about whether they had consumed alcohol in the experiment are associated with self blame, with participants who thought they had consumed alcohol reporting higher levels of self blame, whereas alcohol expectancy is not (Flowe & Maltby, 2018). Given these previous findings, the relationship between self blame and memory reporting was further analysed using alcohol beliefs. The results of these analyses are presented below.

Regression Analysis

As described in Chapter 3, hierarchical multiple linear regression was used to examine the unique contribution of self-blame in predicting memory completeness and accuracy. To assess for possible multi-collinearity, all variance inflation factor (VIF) values in the model were assessed to ensure they were below 10.0 (Bowerman & O'Connell, 1990; Myers, 1990). No multi-collinearity between variables was observed, with VIF values all being below 2.2. Tolerance levels were also all above 0.20, indicating no potential problems (Menard, 1995).

Table 10 provides a summary of the regression model for *memory completeness*. The first block, which contained alcohol consumption and beliefs, was significant, $F(2, 60) = 4.557$, $p = .014$. Only alcohol beliefs was a significant predictor in Block 1 ($\beta = -.360$, $p < .01$). After adding characterological and behaviour self blame to the memory completeness

regression model, only CSB was a significant predictor (β = -.460, p <.01), which partially supports *Hypothesis 4* (please see Chapter 3). The strength of the association between alcohol beliefs and completeness (β = -.235, p =.087) was no longer significant when the self blame variables were added.

Overall, the model exploring memory completeness scores was significant when both blocks were added, $F(4, 58)= 4.523$, p = .003. This model explained 18.5% of the variation in memory completeness, which is significantly more than the 13.2% of the variation explained by the model that contained only alcohol consumption and expectancy, $F(2, 58) = 4.029$, p = .023. The results suggests that self-blame variable plays a significant role in memory completeness.

Table 10

Multiple Regression Analyses Predicting Memory Completeness Following Hypothetical Sexual Assault

	Model 1: Memory Completeness									
	Block 1					**Block 2**				
	B	**β**	**SE**	**t statistic**	***p* value**	**B**	**β**	**SE**	**t statistic**	***p* value**
Beliefs	-.043	-.360	.016	-2.702	**.009****	-.028	-.235	.016	-1.741	.087
Consumption	-.001	-.007	.016	-0.051	.959	-.005	-.042	.015	-0.323	.748
CSB						-.008	-.460	.003	-2.838	**.006****
BSB						.003	.295	.002	1.900	.062
MODEL SUMMARY:			R^2= .103 F = 4.557, p = .014					R^2= .238 F = 4.523, p = .003**		

Note: CSB = Characterological Self-Blame; BSB = Behavioural Self-Blame
*= p < .05
**= p < .01

Table 11 provides a summary of the regression model for *memory accuracy*. All predictor variables entered in Block 1 and Block 2 were not statistically significant and the overall models were non-significant.

Table 11

Multiple Regression Analyses Predicting Memory Accuracy Following Hypothetical Sexual Assault

	Model 2: Memory Accuracy									
	Block 1					**Block 2**				
	B	**β**	**SE**	**t statistic**	***p* value**	**B**	**β**	**SE**	**t statistic**	***p* value**
Beliefs	-.036	-.220	.023	-1.564	.123	-.036	-.223	.025	-1.473	.146
Consumption	.025	.153	.023	1.087	.282	.027	.164	.023	1.141	.259
CSB						.001	.038	.004	.208	.836
BSB						-.001	-.095	.003	-.549	.585
MODEL SUMMARY:	R^2 = .043 *F* = 1.333 *p* = .272					R^2 = .049 *F* = .733 *p* = .573				

Note: CSB = Characterological Self-Blame; BSB = Behavioural Self-Blame
*= $p < .05$
**= $p < .01$

Appendix L: *SPSS Outputs for Alcohol Beliefs Regression Analysis*

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PlaceboVS_alcohol, Thought[b]	.	Enter
2	BehaviouralSelfBlame, CharacterologicalSelfBlame[b]	.	Enter

a. Dependent Variable: completeness

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.363[a]	.132	.103	.05696	.132	4.557	2	60	.014
2	.488[b]	.238	.185	.05429	.106	4.029	2	58	.023

a. Predictors: (Constant), PlaceboVS_alcohol, Thought

b. Predictors: (Constant), PlaceboVS_alcohol, Thought, BehaviouralSelfBlame, CharacterologicalSelfBlame

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.030	2	.015	4.557	.014[b]
	Residual	.195	60	.003		
	Total	.224	62			
2	Regression	.053	4	.013	4.523	.003[c]
	Residual	.171	58	.003		
	Total	.224	62			

a. Dependent Variable: completeness

b. Predictors: (Constant), PlaceboVS_alcohol, Thought

c. Predictors: (Constant), PlaceboVS_alcohol, Thought, BehaviouralSelfBlame, CharacterologicalSelfBlame

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.151	.012		12.916	<.001
	Thought	-.043	.016	-.360	-2.702	.009
	PlaceboVS_alcohol	-.001	.016	-.007	-.051	.959
2	(Constant)	.173	.020		8.508	<.001
	Thought	-.028	.016	-.235	-1.741	.087
	PlaceboVS_alcohol	-.005	.015	-.042	-.323	.748
	CharacterologicalSelfBlame	-.008	.003	-.460	-2.838	.006
	BehaviouralSelfBlame	.003	.002	.295	1.900	.062

a. Dependent Variable: completeness

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CharacterologicalSelfBlame	-.257[b]	-2.064	.043	-.259	.882
	BehaviouralSelfBlame	.005[b]	.044	.965	.006	.959

a. Dependent Variable: completeness

b. Predictors in the Model: (Constant), PlaceboVS_alcohol, Thought

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PlaceboVS_alcohol, Thought[b]	.	Enter
2	BehaviouralSelfBlame, CharacterologicalSelfBlame[b]	.	Enter

a. Dependent Variable: ACCURACY

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.208[a]	.043	.011	.08084	.043	1.333	2	59	.272
2	.221[b]	.049	-.018	.08200	.006	.170	2	57	.844

a. Predictors: (Constant), PlaceboVS_alcohol, Thought

b. Predictors: (Constant), PlaceboVS_alcohol, Thought, BehaviouralSelfBlame, CharacterologicalSelfBlame

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.017	2	.009	1.333	.272[b]
	Residual	.386	59	.007		
	Total	.403	61			
2	Regression	.020	4	.005	.733	.573[c]
	Residual	.383	57	.007		
	Total	.403	61			

a. Dependent Variable: ACCURACY

b. Predictors: (Constant), PlaceboVS_alcohol, Thought

c. Predictors: (Constant), PlaceboVS_alcohol, Thought, BehaviouralSelfBlame, CharacterologicalSelfBlame

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.882	.017		53.061	<.001
	Thought	-.036	.023	-.220	-1.564	.123
	PlaceboVS_alcohol	.025	.023	.153	1.087	.282
2	(Constant)	.892	.031		28.800	<.001
	Thought	-.036	.025	-.223	-1.473	.146
	PlaceboVS_alcohol	.027	.023	.164	1.141	.259
	CharacterologicalSelfBlame	.001	.004	.038	.208	.836
	BehaviouralSelfBlame	-.001	.003	-.095	-.549	.585

a. Dependent Variable: ACCURACY

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CharacterologicalSelfBlame	-.027[b]	-.200	.842	-.026	.889
	BehaviouralSelfBlame	-.072[b]	-.550	.585	-.072	.965

a. Dependent Variable: ACCURACY

b. Predictors in the Model: (Constant), PlaceboVS_alcohol, Thought