The association between trauma, offending behaviour, self harm, and substance use with dissociation and absorption in male prisoners.

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Abstract

There are an increased number of people imprisoned every year in England and Wales. Whilst in prison up to 13% of prisoners engage in self harm, (HM Chief Inspector of Prisons, 2005) often to cope and deal with the stressful environment of prison life. In addition to this up to 80% of prisoners have found to experience difficulties related to drugs and alcohol prior to coming into custody (ONS, 1999). A relationship between Post Traumatic Stress Disorder (PTSD) and substance use has been found in a number of research studies (Reynolds et al, 2005). Much research has been conducted investigating the link between dissociation, fantasy proneness, and PTSD. However, there is a dearth of research examining the relationship between trauma, dissociation, self harm and substance use in a prison population in England and Wales.

The following hypotheses in a sample of 119 participants from a prison in London were tested in an attempt to address this gap within the research literature. It was predicted that there will be a significant difference between:

- participants with a history of trauma experienced in childhood having higher scores on dissociation compared to participants with no history, and trauma experienced in adulthood
- participants with a history of violent and sexual offending having higher scores of dissociation, compared to participants with other types of offences
- participants who are fantasy prone on history of substance abuse and/ or self harm
- participants presenting with a history of self harm having higher scores of dissociation compared to participants with no history of self harm
- and, participants presenting with a history of substance abuse will have a) a greater number of PTSD symptoms, and b) higher scores on dissociation, compared to participants with no substance use or recreational use only.

All of the hypotheses apart from hypothesis 2 were fully supported. The findings illustrate the complex difficulties experienced by the forensic population. The results from the study indicate that individuals that experience

high levels of dissociation endure a number of difficulties that could be a contributory factor to their imprisonment. Based on the findings the implications and challenges for Counselling Psychologists working with clients that present with substance use, self harm, PTSD, offending behaviour and dissociation are presented. A model of self harm based on the research findings is outlined, which could be used to intervene with such behaviour in the therapy room. Overall, when applying interventions for these problematic behaviours particular importance is placed on establishing a positive therapeutic relationship for outcomes to be efficacious (Pearlman and Courtois, 2005). Consequently an individuals distress levels could be reduced, which could have an impact on their experience of prison life and future.

Preface

This piece of research that is being presented is based on the last two years of the authors training in working towards Chartership as a Counselling Psychologist. The research was conducted within a prison focusing on dissociation in male prisoners. This research will illustrate the complexities of working with such populations for Counselling Psychologists. However by gaining understanding regarding prisoners' behaviour they may become equipped with forming a positive therapeutic relationship that could foster positive changes in an individual's life, where they may no longer engage in behaviour that leads to incarceration.

Within the first chapter the concept of dissociation is firstly presented. The theoretical debate within the field of dissociation is outlined, focusing on psychoanalytic and cognitive behavioural interpretations. The current crime rates within England and Wales are then contextualised. This is followed by understanding how criminal behaviour may develop in a number of individuals, namely through experiencing traumatic events. The literature of the psychological mechanism of absorption is presented. The prevalence of self harm behaviour and substance use in a prison population is delineated. The literature regarding the possible link between these behaviours with dissociation and trauma is then presented indicating a need for further research in this particular area. The implications of such findings to the field of Counselling Psychology are then considered. Finally, based on the literature review the research hypotheses are formulated and presented.

Chapter two presents the method that was used to examine the research hypotheses. The design of the study is presented, followed by a number of demographic details of the participants. The measures that were used are discussed. Details are given regarding the procedure that was followed, as well as the ethical considerations that were made before collecting the data.

Chapter three presents the results and inferential statistics that were performed on the data to test the five hypotheses. Within Chapter four the results are discussed and related to the literature. The limitations of the study are presented followed by ideas about what future research within this setting could investigate. The implications of this research to the field of Counselling

Psychology are then presented, based on the various variables that were investigated. In keeping with the philosophy of Counselling Psychology and being reflective the final chapter reflects upon how the authors' experience of training may have shaped the research question. The author then outlines the research experience and pressures of training and how this may have confounded some of the results.

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1. Introduction

People have been sent to prisons since as far back as seventeenth century (Howard League for Penal Reform, 2006). Individuals that have committed crimes were often sentenced to death or subject to public flogging (Howard League for Penal Reform, 2006). Since 1877 prisons in England and Wales have been run by the state and used as the main punishment for those committing criminal behaviour. There are currently over 80,000 prisoners detained in prisons in England and Wales (NOMS, 2008). This large population is repeatedly commented on in the media with recurrent reports of a 'jail crisis' (Dyer, 2007). Furthermore a vast amount of money is spent by the government costing the Ministry of Justice up to £27,000 on housing a prisoner each year (Justice, 2001).

Within the authors' clinical experience of the prison population, a range of difficulties were worked with in the therapy room. There was a high frequency of individuals presenting with self harm behaviour and a history of misusing illicit substances. When working with these clients a number disclosed experiencing traumatic experiences in their lives. As well as experiencing these difficulties many of these clients would find it hard to engage in therapy as it could often be traumatic to talk about their past experiences. The variables of trauma, self harm and substance use were chosen by the author as they were regularly observed in the therapy room during training with clients presenting for support and intervention in a prison environment. These particular difficulties were often difficult to intervene with and were a challenge to work with. The author therefore decided to investigate this area to highlight and understand the difficulties that could be encountered when working with a forensic population. Dissociation is a process that could interfere with the formation of a therapeutic alliance, and can affect an individual's subjective experience of everyday experiences.

There is a wealth of research that has been conducted on dissociation. The area of dissociation is an area that the author had little knowledge of when starting the research; it was decided that to gain further understanding into this area this research would look at whether there is a relationship between dissociation and the abovementioned variables that the researcher has observed in therapy with prisoners. If dissociation is regularly used by an

individual it could interfere with the comprehension of interventions and therefore could influence the effectiveness of therapy (Spitzer et al, 2000).

The following literature review will firstly introduce the psychological mechanism of dissociation, and present relevant research conducted in this area. Statistics will then be presented on the scale of reported offending behaviour in England and Wales in the last five years, and present the research literature that has emerged which has increased understandings of why individuals may commit crimes. The relationship between dissociation and post traumatic stress disorder (PTSD) will be presented and findings within prison of such phenomena will be discussed. The factor of absorption and its relationship with dissociation will then be discussed. Self harm and substance use is a behaviour that is commonly observed in a prison population, the relationship between these factors and dissociation will then be presented. The association between all of these factors will be investigated in a prison sample. The implications of such results for the field of Counselling Psychology and its focus on the therapeutic relationship will then be described. Based on the literature review five hypotheses will be presented to the reader.

1.1 Literature review

1.2 Dissociation

Dissociation has been a concept that has been described by various theorists for a long period of time dating back to the late nineteenth century (Janet, 1889). Since its first description there has been a wealth of research that has been conducted within the area (Holmes, Grey & Young, 2005). In order to understand the phenomena it is important to define what is consists of, and understand the debates regarding it definition.

Definitions

Both the World Health Organisation (WHO) and the APA have defined dissociation. In 1994 the APA defined dissociation as '*a disruption of the usually integrated functions of consciousness, memory, identity or perception of the environment.* Furthermore the diagnosis by the APA identifies that there are various disorders that encompass dissociation, specifically dissociative

amnesia, dissociative fugue, dissociative identity disorder and depersonalization disorder.

The definition provided by the World Health Organisation (1992) in the ICD-10 takes into accounts pseudo neurological difficulties such as, paralysis and pseudo seizures. It also includes trance and possession disorders. This disagreement about the definition between the WHO and APA illustrates the complexity of dissociation. Due to this disparity, difficulties that could be encountered when individuals present to therapy with such complicated behaviour is that experiences remain unexplained depending on the definition that is used

There is currently no consensus in the literature regarding the definition of dissociation (Holmes et al, 2005). In broader terms dissociation occurs when two or more mental processes are not integrated (Cardeña, 1994). As a result of this non integration, an individual that dissociates may have a difficulty in awareness of thoughts and emotions, thus they are avoided (Foa & Hearst –Ikeda, 1996). A number of difficulties could therefore develop if an individual does not have the reflective capacity for thoughts and emotions.

Within the literature there have been four specific types of dissociation that have been described. These are amnesia, where is an individual is unable to remember personal information about themselves or about situations that they experienced; depersonalization, where an individual feels that they are not real and may experience out of body experiences, derealization, where an individual may see other objects as changing and unreal, and identity alteration where an individual may have a shift in their behaviour and how they represent themselves in situations.

Specific dissociative disorders have also been described within the DSM IV (APA, 1994) and ICD-10 (WHO, 1992). The most common being Dissociative Identity Disorder (DID), this is where an individual experiences shifts in their identity and personality, with each personality having a specific thinking pattern and way of perceiving their environment. Another dissociative disorder is dissociative fugue, where an individual may travel to different destinations and experiences a temporary loss of identity. Whilst these disorders are rare, as previously stated they could occur on a continuum, whereby an individual may regularly experience such symptoms which

becomes problematic for them, or the symptoms are not severe and only triggered by experiencing distressing events.

History

Dissociation was first discussed and described in the nineteenth century by Pierre Janet in 1889 after the study of hysteria; he stated that dissociation was a pathological and problematic issue. Here it was described that when an individual experiences intense emotions, a disorganisation within consciousness occurs. Janet stated that dissociation is a positive coping mechanism for the experience of a traumatic event, however if an individual continues to dissociate over time then they will become 'emotionally constricted' and develop some form of psychopathology (van der Kolk et al, 1996).

This description by Janet was later refuted by theorists such as James (1890) and Prince (1905) who stated that dissociation existed in every individual, and could be considered to occur along a continuum. Therefore dissociation may not necessarily cause problems for an individual, if they do dissociate. Due to this disagreement dissociation was not investigated further until behaviours such as borderline personality disorder, self harm and bulimia were researched (Gershuny & Thayer, 1999).

Prevalence

The concept and diagnosis of dissociation has been applied to a wide range of behaviour and phenomena, such as hypnosis (Lynn & Rhue, 1988), and psychopathology (APA, 1994). The latter behaviour will be focused on later within this literature review. There is an abundance of research literature suggesting a link between dissociation and PTSD (Putnam et al, 1996; Saxe et al, 1993; van der Kolk et al, 1996). Many researchers have found that people who may be suffering from PTSD experience dissociative experiences (Ehlers & Clark 2000; Foa & Hearst – Ikeda 1996; Holmes, Grey & Young 2005). Specifically van der Kolk and Fisher (1995) have described the reliving of a traumatic experience and flashbacks as a form of dissociation.

Reviews have found that within psychiatric populations a form of dissociation that is the most prevalent disorder following anxiety and depression is depersonalization (Catell & Catell, 1974; Steinberg, 1995).

Additionally, between eighty and ninety percent of clinical and non clinical populations all report some form of dissociative experience. Dissociation that occurs in such a large proportion of the population could be related to the continuum that has been described by Cardena (1994), who states that dissociation could be conceptualized to occur on a continuum, on one end experiences such as divided attention occur, whilst on the other, pathological levels of dissociation such as dissociative identity disorder (Atchison & McFarlane, 1994; Chu & Dill, 1990; Demitrack et al, 1990; Kihlstrom et al., 1994). Therefore dissociation is a very common occurrence that would benefit from being investigated.

A number of studies have investigated whether there is a relationship between dissociation and different traumatic experiences. Lipschitz et al (1996) investigated the relationship between child sexual abuse and dissociation. They found that women experienced higher levels of dissociation, if they had reported child abuse. Furthermore Waldinger et al (1994) found that incestuous abuse was associated with a higher level of dissociation compared to other forms of abuse. This could be due to the effect that incestuous abuse has on attachment to caregivers, as well as it being probable that this type of abuse is prone to occur over a prolonged period of time, rather than being a one off incidence (Lipschitz et al, 1996).

Based on the theory provided by Janet (1889) that the use of dissociation could lead to psychopathology, Zweig-Frank et al (1994) found that the level of dissociation amongst people with a diagnosis of borderline personality disorder was much higher compared to individuals with no diagnosis. Furthermore among the borderline personality disorder group individuals with a history of self harm reported increased levels of dissociation compared to individuals that had no history of self harm.

Whilst these findings are useful in understanding dissociation, the majority of studies predominately use female samples; therefore the results may not be applicable to males, furthermore it is difficult to establish whether there are differences in dissociation for the variable of gender. Also, much of the research that has been cited above uses samples that are either in some form of treatment and have been motivated to change their behaviour. Many of the studies cited above have also not included a control group and

therefore it is difficult to compare the scores between different population groups. Finally, whilst it is acknowledged that this particular area is complex, there has been a lack of focus on what effect frequency of trauma has on dissociation. This would be an important finding as it could be able to find whether dissociation is used as a recurrent coping strategy, and thus give empirical support that dissociation is used to cope with traumatic experiences rather than be merely hypothesized.

Phenomenology

It is important to understand why dissociation may occur and how it can develop. Many different terms have been used to describe the types of dissociation that is experienced. Peritraumatic dissociation refers to an individual experiencing dissociation at the time of enduring a traumatic event. This may act as a survival mechanism for an individual and has been described to have an evolutionary basis (Fanselow & Lester, 1988). Whilst this mechanism may appear effective in coping with trauma, the long term consequences of using such mechanisms may be that an individual dissociates when faced with any non threatening experience that is perceived as threatening (van der Hart el, 2004).

Herman (1997) states that during a traumatic event an individual may be unable to escape from a situation physically, therefore they psychologically escape by detaching themselves from the experience, and emotionally numb the pain. If the individual does not process the event on an informational or emotional level, there is a risk of experiencing a number of post traumatic stress symptoms such as re-experiencing through flashbacks (Foa & Hearst-Ikeda, 1996).

Gershuny and Thayer (1999) theorize that dissociation is linked to a fear of death or losing control during a traumatic event therefore following the event those individuals with a greater level of fear have a higher level of dissociation.

Within the literature there is an increasing acknowledgement for the link between childhood trauma and dissociation. Gast et al (2001) investigated this link using the Dissociative Experiences Scale (Bernstein & Putnam, 1986) and the Childhood trauma questionnaire (Bernstein & Fink, 1998). They found

a significant correlation between the two measures ($r= 0.47$, $p <0.01$, $n= 115$). However, the data is based on a correlation, therefore it is difficult to make an inference of cause and effect and stating that childhood trauma causes dissociation. Furthermore the use of a psychiatric sample experiencing symptoms of a range of disorders confounds the results in making an inference due to a high rate of co morbidity of other difficulties amongst this population.

In a sample of 139 participants (34 males, 134 females) diagnosed with borderline personality disorder Watson et al (2006) found that participants who reported a high level of dissociative symptoms also reported an increased incidence of physical abuse and emotional neglect on the Childhood Trauma Questionnaire (Bernstein & Fink, 1998). However, no significant relationship was found between child sexual abuse and dissociation. It was hypothesized that this finding may be due to certain incidents of child sex abuse being a one off occurrence, compared to other traumatic events such as physical and emotional neglect being carried out by the main caregiver for prolonged periods and most likely to create long term harm. However due to the low number of males and the difference in PTSD rates in males previously described may make it difficult to generalize these findings to the male population.

Whilst certain studies do show that there is a link between childhood trauma and dissociation, many researchers and theorists have argued that the relationship is not linear (Merckelbach & Muris, 2001). In a review of the literature Tillman, Nash and Lerner (1994) found that family environment is a mediating variable in the link between childhood trauma and dissociation. They suggest the link between experiencing childhood trauma and dissociation is not linear, but subject to an interaction of many different factors.

Consequences of dissociation

Within the research literature a number of short term and long term consequences for dissociation have been documented. Kluft (1990) found that using dissociation as a defence mechanism can later obstruct cognitive

abilities; this leads to an individuals' sense of identity becoming fragmented, with the memory of the traumatic experience becoming compartmentalized.

Within the research literature dissociation has also been found to mediate the relationship between trauma and different types of psychopathology (Becker-Lausen et al, 1995; Griffin et al, 1997; Zatzick et al, 1994), for example self harm (see Chapter 1.6) and other impulsive behaviours (Dench, Murray & Waller, 2005). In a study by Dench et al (2005) men were found to have a higher level of impulsive behaviours which were externally driven compared to females. When studied further it was found that dissociation mediated the relationship between distressing cognitions (such as abandonment) with impulsive behaviours (such as self harm). Whilst this study highlights the role of dissociation in impulsive behaviours the research consisted of a small sample of men, therefore it is questionable whether the results can be applied to the larger male population.

Dissociation has also been implicated with symptoms of Attention Deficit Hyperactivity Disorder (ADHD). Matsumoto and Imamura (2007) studied this relationship in a sample of 813 Japanese male prisoners. Compared to other findings this study found a low prevalence of reported child sexual abuse. This was hypothesized to be due to different cultural norms, compared to Western samples, where talking about sex is a social taboo, and therefore disclosing abuse may be associated with greater levels of shame and guilt compared to Western samples. Due to a large sample size, a power analysis was conducted; it revealed a high level of power, which could explain the fact that all of the results were significant. Based on these findings the relationship between ADHD and dissociation remains inconclusive.

Theoretical concepts

Dissociation has predominantly been conceptualized to exist along a continuum (van der Kolk et al, 1996). Theorists such as Cardena (1994) have identified dissociative experiences which are common in everyday life, for example divided attention. Whilst other theorists have stipulated that dissociation can only exist on a pathological level (Bernstein & Putnam, 1986), such as that observed in dissociative identity disorders.

A number of theories have been proposed to explain dissociation and how it may develop. These theories include: perceptual theory (Beere, 1995), and the BASK model (Braun, 1998), which theorizes that following a traumatic event particular features of behaviour, affect, sensation or knowledge could be dissociated, therefore an individual may experience specific aspects of a traumatic experience but not all. The BASK model has not been elaborated on within the clinical literature. The most utilized model within the literature is the structural theory of dissociation (Spiegel, Hunt & Dondershine, 1988; van der Hart et al, 2005).

The structural theory of dissociation stems from knowledge developed rooted in evolutionary psychology and attachment theory. Van der Hart et al (1996) state that each individual has action systems which are based on: emotion, neuro-physiology, behaviour and attention. These action systems lead to the development of personality. The structural theory of dissociation postulates that dissociation will occur following the subjective response to a traumatic event. The action systems aim to act as a defence, and behave in a way that is adaptive to diverse environments, therefore different action systems develop for daily life and defence. Based on these action systems an individual that endures trauma during childhood may develop a disorganized action system. If an individual has insecure attachments the disorganized action systems are exacerbated, this may be characterized by physical and sexual abuse, as well as emotional neglect. An individual with disorganized and non integrated action systems are theorized to have be vulnerable to dissociation (van der Hart et al, 2005).

Van der Hart et al (2005) use the terms 'Apparently Normal parts of Personality' (ANP) and 'Emotional parts of Personality' (EP) to explain how such behaviour may develop. They state that when trauma is re-experienced intense emotions become override other emotions. The ANP is related to daily life, whereas the EP acts as a defensive action system. Figure 1 below illustrates the division and disparity between the two, and describes the possible difficulties that could ensue if the individual does not have integrated action systems.

The authors theorize that pathological dissociation can be split into three levels: primary, secondary and tertiary structural dissociation (van der

Hart et al, 1996). Primary structural dissociation describes disorders such as simple PTSD and acute stress disorder, whereby a traumatic memory is dissociated from the person; however there is no interference with other aspects of an individuals' life or on daily or defensive action systems.

Secondary structural dissociation describes complex PTSD, whereby emotional parts of the personality are dissociated and not integrated thus they are stuck. Also due to this problems in interpersonal functioning can occur.

<table>
<tr><td>(Relatively) integrated action systems</td><td colspan="8">The personality at large</td></tr>
<tr><td>Primary structural dissociation: Simple PTSD</td><td colspan="6">Emotional Part of the Personality</td><td colspan="3">Apparently Normal Part of the Personality</td></tr>
<tr><td>Action systems</td><td colspan="6">The system dedicated to survival of the severely threatened individual: the defensive system</td><td colspan="3">Systems dedicated to survival of the species & to managing daily life</td></tr>
<tr><td>Secondary structural dissociation: Complex PTSD, Disorders of Extreme Stress, DDNOS</td><td colspan="6">Dividedness of the Emotional Part of the Personality</td><td colspan="3" rowspan="3"></td></tr>
<tr><td>Action systems: sequential dissociation*</td><td>Apprehension</td><td>Flight</td><td>Freeze; Analgesia</td><td>Fight</td><td>Total submission Anaesthesia</td><td>Recuperation Return of pain sensitivity</td></tr>
<tr><td>Action systems: parallel dissociation*</td><td colspan="6">Observing part of the personality
Experiencing part of the personality</td></tr>
<tr><td>Tertiary structural dissociation: DID</td><td colspan="6">Emancipation of Emotional Parts of the Personality; development of more than one EPs that represent a defensive subsystem, e.g., freezing due to chronic traumatization</td><td colspan="3">Dividedness of the Apparently Normal Part of the Personality</td></tr>
<tr><td rowspan="2">Action systems dedicated to defence, daily life, attachment, and survival of the species*</td><td>Apprehension</td><td>Flight</td><td>Freeze; Analgesia I</td><td>Fight</td><td>Total submission Anaesthesia I</td><td>Recuperation Return of pain sensitivity</td><td rowspan="2">Attachment to offspring</td><td rowspan="2">Performing professional activities</td><td rowspan="2">Generally numb, depersonalized, and avoidant personality</td></tr>
<tr><td>X</td><td>X</td><td>Freeze; Analgesia II</td><td>X</td><td>Total submission Anaesthesia II</td><td>X</td></tr>
</table>

Figure 1. Table of structural dissociation (Nijenhuis, van der Hart & Steele, 2004)

Tertiary structural dissociation is characterized by dissociative identity disorder, where a number of identities are adopted by an individual, and there is no integration between the action systems. Figure 1 below illustrates the

conceptual understanding between the three levels of structural dissociation presented by Nijenhaus et al (2004), and what parts of personality dissociate.

If an individual has non-integrated action systems they may have an inability to regulate affect and impulses. Schore (2003) attributes the development of non integrated action systems to having insecure attachments with a care giver. By experiencing secure attachments with the care giver a child can heal non integrated action systems following a traumatic event. The symptoms of dissociation in adulthood have been found to be very similar to disorganized attachment behaviours in childhood, such as freezing, and avoidance (Main & Morgan, 1996).

Van der Hart et al (2006) state that in a bid to prevent re-experiencing of trauma an individual will attempt to avoid any memories related to what they have endured and experiencing intrusive symptoms. If the trauma is not integrated then phobias could develop for the intrusions. The main consequence of such a responding style is that dissociation creates divisions in an individuals' personality, and leads to separate ways of functioning and perceiving their environment.

Brewin (2003) has elaborated on this understanding and postulates that memories are all stored in different ways. Trauma memories are dissimilar to autobiographical memories and are therefore retrieved in a different way compared to autobiographical memories. Brewin describes trauma memories as Situationally Accessible Memories (SAMs) they are somato-sensory, intensely emotional, and fragmentary. Brewin states that these memories can not be intentionally accessed but are triggered by reactivating stimuli. This has important implications for understanding how trauma memories can trigger a variety of intense emotions and could be a frightening experience to be suddenly experiencing emotions and senses related to that endured during a traumatic event.

Based on the structural theory of dissociation (van der Hart et al, 2005) the ramifications of such an understanding for interventions are that individuals may benefit from therapy that aims to integrate the dissociated parts of the personality, which trigger trauma related memories.

Thomas (2003) states that dissociation allows avoiding painful and overwhelming feelings. Depending on the individual and their personal cues

for dissociation, such behaviour could be triggered by interpersonal situations such as therapeutic interventions, or internal events, for example feeling criticized, which are important to be aware of how such behaviour can affect the therapeutic relationship in the therapy room. Greenberg et al (1993) suggest that dissociation should be intervened with in therapy; they suggest that when dissociation is observed, therapists should use this phenomenon as a cue for intervention. The client when dissociating may feel that they have to defend themselves; it will remain important for therapists to create a reparation effect for this negative coping strategy, and not challenge or reinforce the use of dissociation. Whilst this is a useful model of dissociation it is difficult to empirically test such hypotheses. Furthermore this theory has not developed a comprehensive plan of how to intervene with such phenomena therefore preventing the testing of this theory.

Different therapeutic models have also conceptualized dissociation and presented a number of interventions. These will now be presented.

Psychodynamic theory

There has been much more interest in dissociation by psychodynamic theorists compared to cognitive behavioural theorists. Mainly discussed by attachment theorists (Fonagy, 2001) and relational psychoanalysts (Mitchell & Aron, 1999), dissociation has been explored in the psychodynamic field. Attachment theorists postulate that dissociation is a consequence of a disorganized attachment style with the main caregiver. This has important implications for therapy as the intervention technique of therapy is to 'relive' the traumatic relationship with the caregiver through the therapist, by analysing the transference (Diamond, 2004).

The relational psychoanalytic perspective views dissociation as a mechanism that is used when repression is not sufficient, and a state of 'auto-hypnosis', which is used to avert the self from experiencing the pain of a traumatic event that was previously experienced (Mollon, 1998).

Papadima (2006) has reviewed psychoanalytic debates for dissociation; she uses the terms of 'first' and 'second debates'. The *'first debate'* on dissociation connotes the early works of Freud and Breuer (1895); this debate conceptualizes dissociation as a split in consciousness, and holds

a similar view to Janet, that was previously described. The '*second debate*' uses terms such as splitting and disavowal to explain dissociation which refers to the unconscious and splitting of the ego. Lapanche and Pontalis (1986) state that these terms by Freud represent *'a specific mode of defence which consists in the subjects refusing to recognise the reality of a traumatic perception' (p. 61).* Consequently these theorists propose that a child may dissociate to prevent the self from fragmenting during distressing traumatic event, which is reinforced by an inability of the caregiver(s) to provide a containing environment. If a child therefore experiences repeated trauma this process could become habitual (Tilman et al, 1994).

The theories cited above illustrate that by using these understandings it is possible to formulate why dissociation may occur, particularly when childhood trauma is experienced. However these theories have not been empirically tested and therefore it remains questionable whether such phenomenon exists. A number of case reports (Director, 2005; Pizer, 2004) have been used to describe, however the efficacy of such interventions has not been reported.

Cognitive behavioural theory

As previously stated the majority of literature focusing on dissociation has used psychodynamic formulations and theory rather than cognitive behavioural models. There has begun to be interest in this area with cognitive behavioural theorists.

Based on Beck's (1996) theory on personality and psychopathology Kennedy et al (2004) propose a model similar to that described above by van der Hart et al (2006) in the structural dissociation model. However terms such as schemas are used to describe action systems. Kennedy et al (2004) describes dissociation as the '*decoupling of mental processes'*. They describe three stages in which dissociation occurs:

- Automatic dissociation,
- Within mode
- Between mode dissociation.

Automatic dissociation occurs during a traumatic experience, preventing the processing of the event, and leads to an abnormal fragmented

memory trace. Within mode dissociation, involves non-integration of the cognitive, affective, behavioural and physiological aspects of specific experiences, which has a consequence on storage and retrieval of memories, and if not fully integrated could create intrusions and an inability to think, would could explain symptoms such as 'blanking out'. Between modes dissociation, is where there is no integration between the different modes. This may be manifested by an inability to retrieve information from another mode, for example, the inability to recognise a friend, whereby information may not be accessible when another mode is in activation. They concluded that this behaviour may be displayed due to an inability to switch between the modes. Whilst this model has been useful in conceptualizing dissociation Kennedy et al (2004) did not find support for the model, when conducting a factor analysis on a number of measures that aimed to seek the different modes, no significant results were found. Therefore there still remains to be no clear conceptualization of dissociation based on cognitive behavioural theory.

However, cognitive behavioural theorists have conceptualized depersonalization (a feeling that the body is unreal, changing or dissolving, including out-of-body experiences). Hunter et al (2003) link depersonalization to models of anxiety, specifically panic disorders (Clark, 1986). A model by Hunter et al (2003) proposes that the symptoms of depersonalization could signify a feeling of loss of control, leading to an increase in anxiety, which perpetuates the symptoms of depersonalization. Figure 2 below illustrates the maintenance cycles that perpetuate the symptoms of depersonalization, which could help in intervening with such maladaptive thought patterns. The authors therefore propose a number of interventions to control such symptoms including psycho education, self monitoring, and challenging catastrophic thoughts that increase anxiety.

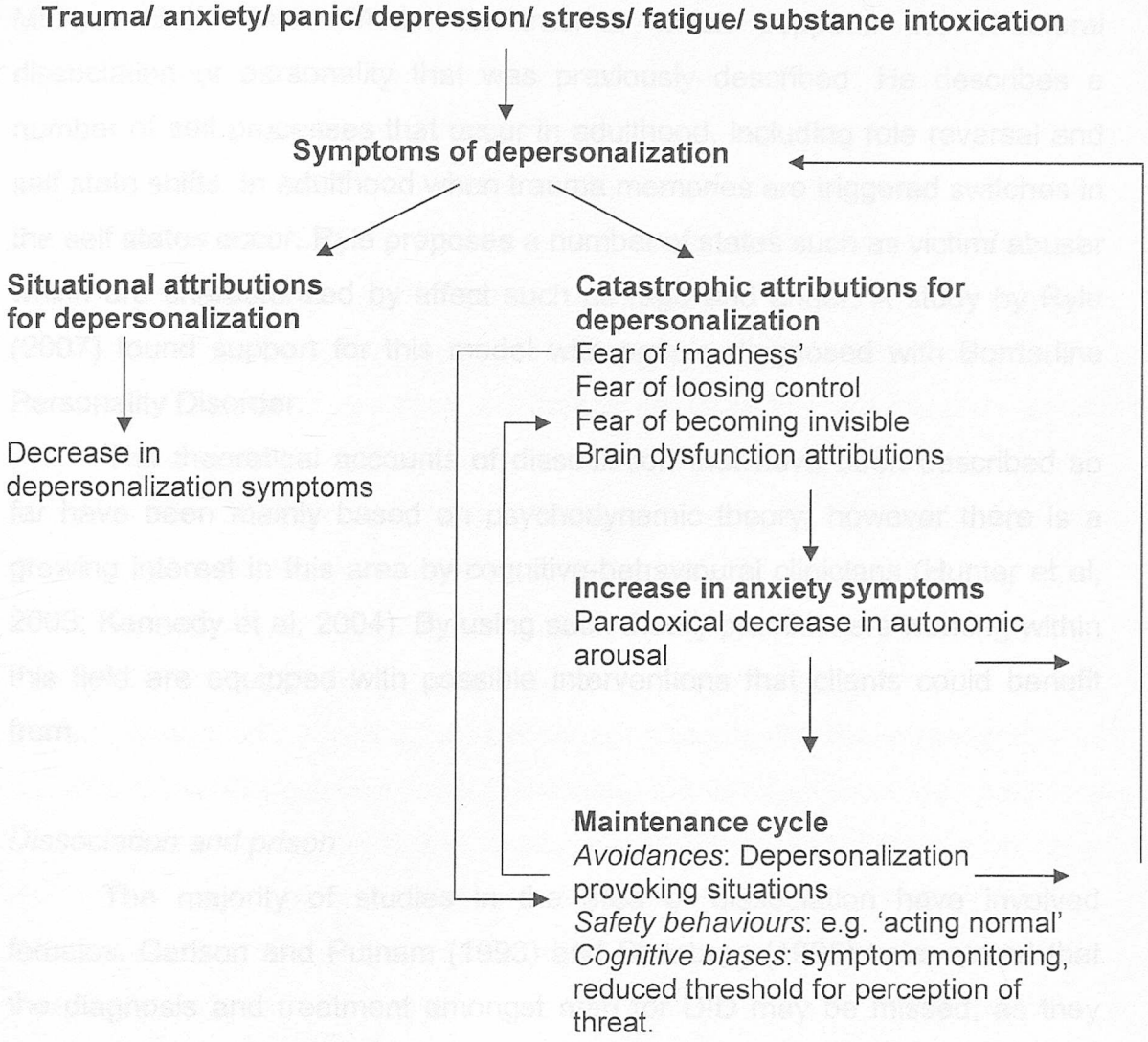

Figure 2. Cognitive model of depersonalization (Hunter et al, 2003)

Based on this model the authors later conducted a study to investigate the efficacy of whether these interventions were helpful to clients (Hunter et al, 2005). Based on the outcome of therapy of 21 participants, the results showed improvements on a number of psychometrics. Whilst this study is useful, the sample only consisted of relatively functioning individuals, which had stable employment and no major difficulties in other areas of their life. A lack of co-morbidity of other difficulties therefore casts doubt upon the generalizability of such findings to a population experiencing a large number of difficulties. Furthermore, the use of a very small sample also makes the generalizability of these findings questionable.

The 'third wave' approach has also conceptualized dissociation (Ryle, 1997), through the understanding that severe neglect and abuse in childhood lead to the use of dissociation as a coping strategy. Anthony Ryle proposes a

Multiple Self States Model for trauma, which supports the structural dissociation of personality that was previously described. He describes a number of self processes that occur in adulthood, including role reversal and self state shifts. In adulthood when trauma memories are triggered switches in the self states occur. Ryle proposes a number of states such as victim/ abuser which are characterized by affect such as rage and anger. A study by Ryle (2007) found support for this model with people diagnosed with Borderline Personality Disorder.

The theoretical accounts of dissociation that have been described so far have been mainly based on psychodynamic theory; however there is a growing interest in this area by cognitive-behavioural clinicians (Hunter et al, 2003; Kennedy et al, 2004). By using such theory practitioners working within this field are equipped with possible interventions that clients could benefit from.

Dissociation and prison

The majority of studies in the area of dissociation have involved females. Carlson and Putnam (1993) and Steinberg (1995) have stated that the diagnosis and treatment amongst men for DID may be missed, as they are referred to the Criminal Justice System much quickly than women before such phenomena is detected. This may explain a limited amount of research conducted on men within this area.

There is limited research that has investigated dissociation within a prison sample. Walker (2002) studied levels of dissociation using the Adolescent Dissociative Experiences Scale in a sample of 29 juvenile male offenders. He found that when comparing with matched controls in a school that had no history of offending the prison group had a higher level of dissociation compared to the control group. The author stated that 27% of the prison sample exhibited a high level of dissociation, which could benefit from interventions such as psychotherapy and pharmacology. However, only a small sample was used in this study questioning whether these results can be generalized to the prison population. Furthermore the use of a juvenile population which have known to experience higher rates of dissociation

compared to adults (Walker, 2002) brings in to question whether similar findings would be found in an adult male prison population.

A number of studies have investigated dissociation in an American prison samples (Carrion & Steiner, 2000; Friedrich et al., 2001; Simoneti, Scott, & Murphy, 2000; Snow, Beckman & Brack, 1995). Using the DES tool these studies found that approximately 25%-27% of their samples demonstrated a pathological level of dissociation. However these studies have been conducted in America. It would therefore be useful to investigate whether similar levels of dissociation are experienced in a British male prison population as no such study has investigated this so far. The implications of such findings will be presented further in Chapter 1.8.

A number of theorists have discussed the perpetration of specific crimes and whether dissociation could have been a contributory factor. Becker-Blease and Freyd (2007) theorized that during the perpetration of sexual crimes, dissociation could have taken place. They state that offenders of sexual abuse could dissociate during perpetration, therefore they objectify their victims and depersonalize them, as well as experience depersonalization themselves. This state would prevent them from readily empathizing with their victims.

In a review by Moskowitz (2004) several theories are proposed that seek to explain a link between dissociation and homicide. Firstly individuals may have fantasies regarding violence, and therefore act them out during dissociative states. Secondly individuals may have an over controlled level of hostility and rage, which is expelled during dissociation. Finally a link between psychopathy and depersonalization has been proposed. First introduced by Cleckley (1950) psychopathy was defined as a lack of emotional experience. Psychopathy has been theorized to exist due to repressed parts of personality which are not integrated into personality, which is facilitated by process of dissociation (Cleckley, 1950). When conceptualized in relation to offending, dissociation may occur during the perpetration of violence, as repressed parts of the personality are played out. This theory may account for the finding that one third of perpetrators of crimes have no memory of their offence, as they are unable to retrieve such information due to non integration (Kopelman, 1987; Schacter, 1986). However without assessing levels of dissociation, it is

difficult to make this interpretation. Furthermore there may be a number of reasons why individuals may not report a memory of their offence, for example intoxication from substances, or an attempt is made to be found not guilty for committing such an act by denying such acts.

Within the literature the majority of research has focused on violent offending and dissociation, rather than other types of crimes (Carlisle, 1991; Cartwright, 2001; Lewis et al 1997). Moskowitz (2004) has argued for further research to compare levels of dissociations for perpetrators of an array offending behaviour, such as acquisitive crimes. This has important implications for therapy; as a history of certain crimes may need specific interventions that encompass and take account of dissociation. It will therefore be crucial to address dissociative behaviour that may be triggered by negative experiences. In terms of interventions it may not be sufficient for prisoners to complete anger management courses, relapse prevention and victim empathy courses, as the skills learnt may not be applied if a dissociative state is induced. Specifically interventions may need to deal specifically with the underlying factors that cause offending behaviour.

Critique

A number of studies have investigated dissociation in American prison populations, there are currently no published studies to date that have investigated dissociation levels in a British prison sample. Studies that have investigated dissociation in prison samples have used small samples (Walker, 2002); a study using a larger sample would be beneficial to allow for generalizations to be made.

Many studies have investigated dissociation by focusing on the tertiary level of structural dissociation. They have predominately used samples where participants have been diagnosed with dissociative identity disorder (Reinders, Nijenhuis, Quak, et al. 2005). It would be useful to use this continuum to measure psychopathology within a prison sample due to the high level of mental health difficulties experienced by this population (HM Inspectorate, 2007) which could consequently inform practice and interventions on what may be useful and helpful to prisoners. As previously

described dissociation is a complex issue that has been difficult for researchers to conceptualize and investigate (Gershuny & Thayer, 1999).

The benefit of researching a prison sample is that much of the research that has been conducted so far has used psychiatric populations. Within these samples many individuals are seeking treatment and recognise that their difficulties are problematic, thus they are seeking support. In the author's experience a prison is likely to consist of a heterogeneous sample, with individuals that may be motivated to change their behaviour and want insight into their difficulties whilst others may not be motivated to change their behaviour, and may not want to have insight to change their behaviour. The majority of research within the field has been conducted using female samples, rather than male therefore it would be useful to understand whether such phenomenon also exists in a male population.

A number of researchers have stated that the link between trauma and dissociation is not linear (Merckelbach & Muris, 2001), and found that factors such as family pathology mediates the relationship between the two factors (Lilienfeld et al, 1999, Nash et al 1993; Sanders & Giolas, 1991). The area has therefore been subject to scrutiny and further investigation.

1.2 Prison

There have recently been recurrent reports in the media of a 'jail crises' within prisons, with emergency accommodation being used to manage the influx of prisoners (Dyer, 2007). The UK is reported to have the highest rate of imprisonment within Europe (Howard League for Penal Reform, 2006). Due to this high prevalence much research has been conducted within prisons focusing on psychiatric illness, substance abuse, self harm and violence (Arboleda – Florez, 1999; Singleton, Meltzer & Gatward, 1998; Sheeran & Swallow, 2007). Consequently research has been used to inform interventions for rehabilitation, and the development of public policy (HM Inspectorate of Prisons, 2007; National Treatment Agency, 2006).

Currently there are over 80,000 prisoners that have been detained in England and Wales (NOMS, 2008). In order to meet its objectives it states within the Prison Service Statement of Purpose *'to look after them with humanity and help them lead law abiding and useful lives in custody and after*

release'. The Prison Service has therefore devised a number of treatment programmes, for example the Sex Offender Treatment Programme (Thornton, 1991) which aims to tackle sexual offending.

Substance related crime

The number of illicit drug related crimes is on the increase (Eaton et al, 2006). In 2004, 122,459 people were prosecuted or cautioned for drug offences compared to 105,039 in 2000 (Eaton et al, 2006). These figures illustrate the rising rate of drug related crime in the UK that would benefit from being reduced and controlled.

In an investigation of cases by the HM Inspectorate of Probation (2006), between 40 and 60% of cases that were working under the supervision of Probation teams in England and Wales were found to be linked to substance misuse. Budd et al (2005) found that individuals reporting a high level of drug consumption had an increased likelihood of committing an offence, compared to individuals that reported using substances recreationally. In research conducted in Scotland, Neale et al (2005) found that committing violent assault was associated with the following risk factors: being male, using crack cocaine, being assaulted and being homeless or sleeping in a hostel. These results could illustrate that using substances could have an extremely negative effect on an individual's life; furthermore that they could be vulnerable to enduring a number of traumatic experiences.

The British Crime Survey in 2004/05 revealed that in a one year period over one million incidents of alcohol related violence took place; this represents 44% of all violent offending (Home Office, 2005). There is therefore a need to intervene with this type of substance abuse as it can create many difficulties to an individual's life and for society (Walker, Kershaw & Nicholas, 2006). Substance abuse will be discussed further in Chapter (1.7).

Sexual offending

Sexual offending encompasses a variety of non consensual sexual behaviours, against another person; these include rape (male or female) and sexual offences against children. A number of sex offences do not involve

contact, for example exposing commonly referred to as 'flashing'. Since the advent of the internet a number of offences related to viewing pornography involving children have also been introduced (Sexual Offences Act, 2003). It is widely acknowledged by the Government and the Police that sexual offending is underreported (Nicholas, Kershaw & Walker, 2007). The British Crime Survey aims to capture this discrepancy by questioning individuals on their experiences of crime. In 2005 the investigations by the British Crime Survey revealed that 23% of women had reported being sexually assaulted since the age of 16, and 3% of men had also reported being sexually assaulted. This figure is not representative of the number of offences that are reported to the police for sexual assault (in 2006/07 57,542 offences were reported to the police, Home Office, 2007), this may be due to the difficulty in proving this crime and also the stigma associated with being a victim of sexual assault.

Violent offending

Violent offending includes a large number of crimes that involve assault, grievous bodily harm and murder. There is currently an interest in the media regarding knife crime and young people. At the time of writing there have been 16 deaths by knife crime since January 2008 (Crime stoppers, 2008). In 2005/6 3.4% of the population had experienced a violent incident, with 2.4 million reported incidents (Home Office, 2006). These statistics illustrate that violent crime is a concern for society, and this area would benefit from research, leading to the development of interventions to reduce the prevalence of such behaviour.

Research has investigated risk factors that cause specific types of offending, for example child sexual abuse has been documented as a risk factor for violent offending in adulthood (Rivera & Widom, 1990). There is also a large amount of research illustrating that being repeatedly victimized can predict the onset of violence in adulthood. (Shaffer & Ruback, 2002). Zhang et al (1997) found a causal link between the use of alcohol and the incidence of violent crime.

The research cited above briefly describes the variety of offences that take place in the United Kingdom, and the relationship that it may have with substance misuse. It therefore is important to intervene and reduce such

behaviour, which an individual and society can both benefit from. The following section will consider the relationship offending may have with mental health difficulties.

Psychiatric morbidity within prisons

There has been burgeoning research within the prison population focusing on mental health (Farell et al, 2002; Howerton et al, 2007; Sheeran & Swallow, 2007). In a review of studies by Fazel and Danesh (2006) a higher prevalence in major depression, psychotic illness and personality disorders was found in prison populations. Consequently there have been a number of policies and interventions that have been put in place to support prisoners with problems in mental health difficulties. For example, in 2001 Prison In Reach teams[1] (DoH, 2001) were introduced throughout the prison estate in England and Wales (HM Inspectorate, 2007).

These findings indicate a higher prevalence of psychological and psychiatric difficulties in a prison population. However they are merely descriptive and only illustrate the degree to which these problems exist within society, rather than attempt to inform how such problems may develop. To effectively intervene with such experiences a greater knowledge base on these difficulties needs to be generated. The following chapter will present the literature on trauma to the reader and attempt to illustrate a link between trauma and subsequent offending.

1.3 Trauma

The phenomenon of trauma has been widely studied within the clinical literature (Green, 1993; Kessler et al, 1995; McFarlane, 1996). The experience of trauma can have a number of consequences for an individual that endures traumatic events; the consequences will depend on a number of factors, which will be described in this literature review. This review of the trauma literature will firstly focus on the definitions that have been provided by clinicians working in this particular field.

[1] In reach teams were set up to provide support for prisoners with severe and enduring mental health, which is mainly provided by psychiatric nurses and forensic psychiatrists.

Definition

In 1994 a definition of trauma was provided by the American Psychiatric Association (APA), and used the term Post Traumatic Stress Disorder. This term was used following World War II, where some war veterans were observed to be 'shell shocked' and traumatized after being in combat. The APA (1994) stated that PTSD can be caused by the experience or witnessing of a serious life threatening situation, after this experience the individual can experience intense fear, helplessness or horror. For PTSD to be diagnosed the following symptoms need to persist for at least a period of 1 month:

- Intrusions, in the form of flashbacks and dreams causing distress;
- Avoidance, of thoughts, feelings or reminders of the trauma;
- Hyper arousal, irritability, hyper-vigilance, insomnia and poor concentration.

Another consequence of trauma could be the development of an acute stress disorder (ASD), the main difference between PTSD and ASD is the duration of the symptoms. ASD lasts for 2 days until 4 weeks following the trauma and, then if symptoms do not dissipate after a month PTSD can be diagnosed. ASD diagnosis constitutes the presence of PTSD as previously described, as well as dissociative symptoms such as emotional numbing, detachment, reduced environmental awareness, derealisation, depersonalisation and amnesia (Adshead & Ferris, 2007).

Within the literature there is an argument for a separate diagnosis of complex PTSD (Herman, 1992). Complex PTSD differs to the definition that has been previously described; this may result from experiencing repeated and prolonged trauma rather than a one off incident. There are many consequences of complex PTSD, Herman (1992) describes:

- Symptomatic consequences, comprising dissociation and affective changes;
- Characterological consequences, for example difficulties in relationships with others;
- Vulnerability for further harm, such as self harm.

These definitions illustrate the complexity of trauma, and that following the experience many negative consequences can develop leading to long

term difficulties. It is therefore important to assess the prevalence of such difficulties in order to decide what populations may benefit from support and intervention to prevent further harm.

Prevalence rates

In the large scale 'National Co-morbidity Study' by Kessler et al (1995), levels of PTSD within the general population of America were compiled and analysed using the Diagnostic Interview Schedule (Robins, Helzer, Cottier & Goldring, 1988). The sample consisted of 5,877 participants. The results revealed that females had a higher incidence of PTSD compared to males, with 10.4% and 5% respectively. A criticism of this research is that the instrument that was used has been found to underestimate difficulties such as PTSD. Therefore the rates of PTSD may be higher than that found within this study. Furthermore, it is questionable whether similar results can be found in the UK population due to differences at sociological, economic, political and cultural levels. Whilst a high prevalence of PTSD is found in the American general population, it remains questionable whether similar findings would be found in a UK population.

Risk factors

In the large scale study by Kessler et al (1995) common causes of PTSD in men were found to be: witnessing death, serious injury, or having been in combat. Due to these factors certain groups may be more at risk of developing PTSD, for example, certain professions such as fire fighters and police officers, and individuals within the armed forces

A number of studies have reported that nearly 50% of the general population report experiencing a traumatic event (Ozer, Best, Lipsey & Weiss, 2003). However not all of the population develop symptoms as such as flashbacks and avoidance, and it does not affect their general functioning, as only approximately 7.8% of the American population develop PTSD symptoms (Kessler et al, 1995).

Studies have examined the risk factors that lead to the development of PTSD. Following a review of studies Shalev (1996) concluded that common risk factors described are: pre trauma vulnerability (family psychopathology);

the magnitude of the stressor; preparation for the event; immediate reactions to the trauma; and post trauma factors (social support). Many of the studies however are subject to criticism, they used mainly veteran populations and therefore the nature to which they were traumatized is very different to people who may have endured other forms of trauma.

Individuals who have suffered sexual or physical abuse as children have also been described as suffering from PTSD (Briere & Elliott, 1994). Victims of sexual assault were found to have similar symptoms as observed in the war veterans, namely avoidance and hyper arousal, which was initially described as rape trauma syndrome (Becker, 1982; Burgess & Holmstrom, 1974).

Brewin, Andrews and Valentine (2000) and Ozer et al (2003) conducted a meta-analysis of studies investigating factors that can lead to the development of PTSD, based on 77 studies. Brewin et al (2000) found that lack of social support was the strongest predictor for the development of PTSD (r= 0.40), other factors that predicted PTSD in all populations[2] included: childhood abuse, psychiatric history and family psychiatric history. Whereas, the Ozer et al (2003) review found that peritraumatic dissociation was the strongest predictor of development of PTSD. Both studies had difficulty in concluding specific factors that are likely to cause PTSD. They concluded that different instruments used in the literature made it difficult to make firm inferences. Due to the heterogeneity of the samples, the authors argued that it is difficult to make comparisons across groups, and build a model of risk factors for the development of PTSD, it may therefore be useful to focus on specific populations, such as forensic populations and investigate and build models to suit that particular group.

Due to differing prevalence rates of males and females for PTSD, gender differences have been investigated (Breslau et al, 1997; Frans et al 2005; Kessler et al, 1995; Olff & de Vries, 2004; Stein, Walker, & Forde, 2000). A possible explanation for this occurrence is a higher rate of childhood sexual abuse against females compared to males (Olff et al, 2007). Breslau et al (1997) controlled for trauma exposure, and found that women were still more likely to develop PTSD compared to men, therefore there may be a

[2] Populations that were investigated included combat veterans, motor vehicle accident victims, victims of assault and rape and victims of natural disasters.

biological explanation for this finding. In a review of studies Olff et al (2007) concluded that gender specific cognitive appraisals regarding the traumatic event leads to differences in neuro-endocrine responses which could explain the higher rate. Due to these findings much research has been conducted on female samples. Men also experience trauma and therefore this is an area that would benefit from further research.

It is difficult to compare the vast amount of studies have investigated PTSD and trauma, due to a vast range of measures that are used. Some studies have used measures such as the Trauma Symptom Inventory (Briere, 1997) whilst others have used the Impact of Event scale - Revised (Weiss and Marmar, 1997) which both measure symptoms (behavioural/ physiological and cognitive) that follow the experience of a trauma. Other studies use structured clinical assessments tools based on the DSM IV criteria for PTSD, such as the Clinician Administered PTSD scale (Blake et al, 1990). Studies that use objective measures have the advantage of being reliable compared to tools such as the Clinician Administered PTSD scale, which will be based on the judgement of the interviewer.

Consequences of trauma

Briere and Elliot (1994) investigated the short and long term effects of trauma during childhood, specifically child sexual abuse. They state that following trauma an initial post traumatic stress reaction can occur, which leads to a disruption in psychological development, the experiencing of painful emotions and development of cognitive distortions. If abuse persists then the experiences will be accommodated into personality, and have a long term impact on psychological development. Conte and Schuerman (1987) found that children that had been abused in childhood exhibited greater amount of fear and anxiety, and difficulties in concentration compared to children that had not been abused. A small minority of the population that were abused in childhood go on to abuse others as adults (Hopper & Lizak, 1993).

In a co-morbidity study by Breslau et al (1991) it was found that 80% of their sample that suffered from PTSD also reported other disorders, namely substance abuse, anti social personality disorder, depression and anxiety.

These findings illustrate the complex nature of trauma, however not all individuals that develop such difficulties as described above display these symptoms. Many of the findings that have been reported are based on psychiatric populations that present to services for support. These studies do highlight the potential long term damage of PTSD, it is therefore important to intervene following a traumatic event, if known. It is also crucial to understand the complex difficulties an individual may present with following years after the incidence of trauma, and what long-standing damage may have been caused.

Based on these findings it would be useful to examine whether specific populations experience these difficulties to a greater level than others. This would have important implications in illustrating a greater treatment need for intervention and support for particular difficulties.

PTSD and Forensic settings

Rates of PTSD have been investigated in forensic populations. Due to the use of different measures inconsistent PTSD prevalence rates have been reported in prison samples (Collins & Bailey 1990; Gibson et al 1999; Guthrie 1998; Powell et al 1997). The studies have found from 2% to 33% prevalence of lifetime PTSD. Gibson et al (1999) found a prevalence rate of 33% of their sample fulfilling the criteria for lifetime PTSD, i.e. had experienced PTSD at some point within their life for a period of over a month, amongst a sample of 118 prisoners in America. The antecedents that precipitated PTSD were also examined; they revealed that as opposed to general population samples, the most common causes of PTSD were childhood sexual abuse (25%), and adulthood physical assault. This study also identified high levels of co morbidity with other psychiatric disorders such as, obsessive compulsive disorders, anti social personality disorder, generalized anxiety disorder and major depressive disorder. This study illustrates that prisoners with PTSD may have a multitude of other difficulties apart from offending behaviour and PTSD. A numbers of limitations to this study need to be noted; firstly the sample was not representative of the ethnic diversity of the prison population in America. Furthermore as the research was conducted in America it may be difficult to generalize these results to a British prison population due to differing criminal justice systems.

Huang, Zhang, Momartin, Cao, and Zhao (2006) investigated PTSD prevalence in Chinese female prisoners. In a large sample of 471 prisoners using the Clinician Administered PTSD Scale (Blake et al, 1990), Symptom Checklist 90 – Revised (Derogatis et al, 1973), and Traumatic Life Events Questionnaire (Kubany et al, 2000), 80% of their sample reported experiencing at least one traumatic event in their life, whereas only 25.6% had developed symptoms for PTSD lasting longer than one month. The authors concluded that the use of supportive mechanisms, such as the family unit would have protected many of the participants from developing PTSD. The study also found that the most common cause was motor vehicle accidents, reported by 46.9% of the PTSD diagnosed group. Child sexual abuse only accounted for 10% of the PTSD diagnosed group. These results need to be applied with caution when generalizing these findings to a British population. Huang et al (2006) hypothesize that within the Chinese community there is a conservative attitude towards sex, and therefore participants may not be willing to disclose traumatic experiences involving sex. Whilst this study reveals some important findings it is difficult to apply these results to a British population. Firstly the Chinese prison population are likely to be dissimilar compared to that of the British population. This would be shaped the political regime in China; therefore the crimes committed by Chinese prisoners are likely to be different compared to British prisoners. Secondly, the use of females would also be difficult to apply these results to a male population,

In a study by Spitzer et al (2001) the prevalence of PTSD was examined at two forensic secure hospitals within Germany. Using a variety of PTSD measures, Spitzer and colleagues found that 25% of their sample reported childhood physical abuse as the cause of PTSD symptoms. A number of limitations to this study need to be considered; firstly a small sample size was used. Secondly only half of those approached met the inclusion criteria for this study, therefore these results may represent a bias in the sample.

High rates of child sexual abuse have also been found in prison samples. Fondacaro, Holt and Powell (1999) studied levels of childhood sexual abuse amongst a sample of 211 male prisoners in America. They found that 40% of the sample had experienced sexual abuse as children. The

results also found that amongst the abused group a significantly higher rate of PTSD, depression and schizoaffective disorder occurred, compared to the non abused prisoner group. Furthermore this study measured cognitive appraisal of the abuse. They found that cognitive appraisal was an important factor in determining the use of effective coping strategies. They found that 41% of the abused sample did not consider themselves as victims of abuse. These participants also had higher rates of alcohol dependence but lower rates of anxiety disorders, such as obsessive compulsive disorder compared to those who did consider themselves as victims of sexual abuse. Therefore Fondacaro et al (1999) hypothesized that those participants that did not consider themselves as victims of abuse were using coping strategies related to denial, and blocking their emotions by using alcohol or drugs (Substance abuse will be explored further in Chapter 1.7).

This study illustrates that individuals that are traumatized will use numerous coping strategies which may be useful, or could also create further problems in their life. However there are a number of limitations in the Fondacaro et al study. It is questionable whether these results can be applied to a British prison population due to differing criminal justice systems and cultural dissimilarities. This study used stringent criteria for sexual abuse, and did not include certain behaviours that could be interpreted as sexual abuse, for example the showing of genitals and could be distressing and traumatic to an individual. These high rates of psychopathology amongst the prison population may indicate a high need for psychotherapeutic interventions.

A number of studies have begun to acknowledge that after the perpetration of a crime a number of offenders display signs and symptoms of PTSD. Papanastassiou et al (2004) found that in a sample of 19 mentally ill inpatients sectioned under the Mental Health Act (1983), and convicted of homicide, 58% met the criteria for lifetime PTSD, and an additional 21% met the criteria for partial PTSD. Therefore this study shows an overall higher incidence and likelihood of people who have committed crimes to be at risk of developing PTSD compared to general populations. However a very small sample was used with this very distinct population, and therefore it is difficult to generalize these results to the whole of the forensic population.

The issue of PTSD is a complex one, within forensic populations there is a high incidence of PTSD (Gibson et al, 1999; Guthrie 1998; Powell et al 1997); however there are no comprehensive studies that have looked at PTSD within the prison population in England and Wales, and a recent report has called for research to be conducted within prisons examining the rates of trauma in prisoners (Durcan, 2008). In order to suppress and ameliorate some of the negative effects of PTSD symptoms, such as intrusions, individuals may use negative coping strategies, for example drugs and alcohol. These findings illustrate complex nature of PTSD and the importance of research in this area highlighting treatment implications by understanding such phenomena.

Whilst there is a wealth of research on trauma, it would be useful to investigate the mechanisms that take place following the occurrence of trauma. There has been resurgence in the area of trauma and its relationship with dissociation and fantasy proneness; this will be discussed further in the subsequent chapter.

1.5 Fantasy proneness

A factor that has been implicated in the field of dissociation has been fantasy proneness. Fantasy proneness is a trait referring to a *'deep and profound involvement to fantasy and imagination'* (Wilson & Barber, 1982; Lynn & Rhue 1988). Fantasy proneness was initially conceptualized due to Hilgard's work on hypnotic suggestibility (Hilgard, 1965). A number of research studies have theorized the developmental pathway to fantasy proneness. They state that getting involved in fantasy is used to cope with isolation and growing up within an aversive environment (Lynn & Rhue, 1988). Studies have identified a link between symptoms of dissociation and fantasy proneness (Pekala et al 2000, Waldo & Merritt, 2000).

The first study that investigated the relationship between fantasy proneness and dissociation was conducted by Silva and Kirch (1992). Using an undergraduate student sample, the authors found that a significant positive correlation ($r = 0.42$) between the constructs of dissociation and fantasy proneness occurred. However a limitation of this study is that a student sample is used, therefore whether these results are applicable to a clinical

population remains to be answered. The following study aimed to address this flaw, Pekala et al (2000), investigated dissociation and fantasy proneness in a sample of 1229 male substance abusing inpatients, they found a similar correlation of r= 0.41. The authors concluded that fantasy proneness is equally important in the relationship with dissociation as child sexual abuse is. The size of the sample however may confound the results, with such a large sample size the chances of conducting a Type II error are increased and therefore may question the validity of the data.

Merckelbach et al (2005) also used clinical samples to investigate the relationship between fantasy proneness and dissociation. The study used a sample of 61 participants with either: schizophrenia, major depressive disorder or borderline personality disorder. The authors found that the borderline personality disorder group had a higher level of dissociation compared to the other two groups. This study therefore illustrates that individuals that self harm and have a number of other difficulties such as self harm and substance use may have a higher levels of fantasy proneness and dissociation. However the designs of these studies make it difficult to infer cause and effect, and it is difficult to conclude that due to a higher level of dissociation and having the trait of fantasy proneness makes these particular individuals susceptible to developing these difficulties. Based on the structural theory of dissociation previously described it could be hypothesized that these traits develop as a result of dissociation and used as a coping strategy to deal with traumatic experiences.

A review by Merckelbach and Muris (2001) found that the accuracy of reporting incidents of traumatic events is confounded with high levels of dissociation. They state that in individuals that are fantasy prone there is a possibility that their fantasy and dreams could interfere with the reality of their experiences. Merckelbach and Muris (2001) propose that people with high levels of dissociation could be prone to overestimating the incidence of traumatic events. It is therefore difficult to claim that reported traumatic experiences that cause distress to an individual are untrue, and could be a consequence of suggestible and fantasy prone traits, rather than lived experience. The review and research conducted by Merckelbach and Muris is subject to criticism. The authors based their findings predominately on college

and non clinical samples. Secondly, they used an experimental design using memory tasks, and found what influence fantasy proneness has on memory tasks. Therefore it is questionable whether this type of design can be applied to the traumatic memories that are experienced in childhood and may be stored differently (Brewin, 2003).

A study by Geraerts et al (2006) has found contradictory evidence to Merckelbach and Muris's findings. Investigating women with either repressed, recovered, or continuous memories of childhood sexual abuse, along with a control group the authors concluded that fantasy proneness may contributed to dissociation. They found a significant difference between the three experimental groups on fantasy proneness traits and levels of dissociation. This finding could be understood by the explanation that early dysfunction and trauma can encourage the trait of fantasy proneness to develop (Lawrence et al, 1995). The results also revealed that women with repressed and recovered memories of trauma had higher levels of dissociation compared to women with continuous memories of trauma. A possible explanation for this finding is that individuals with continuous memories of childhood sexual abuse may have integrated and processed the memory, and therefore do not use dissociation as a coping strategy for difficult or perceived threatening events.

Absorption

Fantasy proneness has been closely related to Tellegen and Atkinson's (1974) conceptualization of absorption. Allen, Coyne and Console (1997) found that when investigating the absorption subscale of the DES within a clinical population, significant associations were found with severe psychopathology as measured on the Millon Clinical Multi-axial Inventory –III (Millon, 1994). Allen et al (2002) investigated the DES further with a sample of 214 women in an inpatient setting. They investigated specific types of abuse; they found that sexual abuse and the DES- Taxon were significantly correlated. When investigating absorption, they found that sexual and emotional abuse was correlated with absorption, when controlling for other variables such as age. The authors theorize that absorption develops when a child is faced with criticism and shouting, thus they 'tune out' which could be a consequence of emotional abuse. Furthermore the act of sexual abuse is

physically invasive, and therefore may require more complex dissociation strategies to be used.

Absorption has not been an area that has been closely investigated within research studies, whilst a number of studies have examined the relationship between dissociation and trauma studies have not studied whether absorption has an effect on other factors, such as substance use and self harm which will be discussed further in the following chapters.

1.6 Self harm

Definitions

Within the literature there are a number of terms that have been used to describe behaviour that constitutes self harm. Common terms that have been employed by authors include: parasuicide, self injury, self injurious behaviour, self mutilation, self harm and deliberate self harm. Parasuicide was defined by Kreitman (1977) as '*nonfatal self-injurious behaviour with a clear intent to cause bodily harm or death*'. It involves a serious suicide attempts and self cutting. This definition encompasses an array of behaviours and does not distinguish between suicidal intent and relieving tension, which has often been described.

Using the term '*self harm*' Babiker and Arnold (1997) have proposed the following definition, '*an act which involves deliberately inflicting pain and or injury to one's own body, but without suicidal intent*', (*page 2*). This definition distinguishes between the goal of the behaviour i.e. not being to end life, but a method of managing and expressing emotions. Self harm can be carried out by different methods, these include cutting parts of the body, inflicting burns or scalding, or taking overdoses. This definition will be used within this research to describe this behaviour. Whilst the research will focus specifically on the non suicidal aspect of self harm; the author recognises that there is relationship between self harm and suicidal behaviour.

Due to the differing definitions of self harm that have been used within the literature, the research studies presented in this chapter are subject to criticism and there is a difficulty in comparing different studies. Each study employs different definitions, which therefore impacts on the criteria used for inclusion and exclusion in samples, for example, certain studies will use a

scratch on the arm as constituting self harm (Blaauw, Winkel & Kerkhof, 2001), while others will require the assistance of medical attention before inclusion within their study (Farmer et al, 1996; Garvey & Spoden, 1980).

There are a number of methods that are used by prisoners to self harm, these include: lacerating forearms, wrists and feigning hanging (Power & Spencer, 1987). Crighton and Towl (2000) found that self cutting, burning and causing abrasions are common methods that are employed at the time they conducted their research. These extreme and harm causing behaviours may be reflective of the methods and means that are available to prisoners compared to less harmful behaviours.

Prevalence rates

Incidents of self harm are on the increase, with the UK having the highest incidence in Europe of self harm in young people (Schmidtke et al, 1996). The rates of self harm in custody are elevated in prison populations compared to general community populations (Crighton & Towl, 2002; H M Chief Inspector of Prisons, 1990). A comprehensive study by Jenkins et al (2005) compared the rates of suicidal thoughts and self harm behaviour in prisoners and the general population. Men in the general population were found to have an incidence of 14%; however male prisoners had a rate of 40%. In a survey by the Safer Custody Group (2007) for prisons in England and Wales 23,355 incidents of self harm were recorded over a one year period. This high prevalence has also been found in other countries, for example, Shea (1993) found a prevalence rates between 6.5% and 25% for male prisoners in America.

Briere and Gil (1998) compared the prevalence rates of self harm in general populations and clinical populations, and found 4% and 25% respectively. The magnitude of difference could indicate the level of distress in a clinical population.

Self harm is a behaviour that is frequently observed within prisons (Safer Custody Group, 2007). This may be indicative of an increased level of observation in prison compared to the community, which could be the underlying finding of a higher prevalence rates found in prisons. However, this

finding may also indicate the level of distress or psychopathology experienced within this population (Fazel & Danesh, 2006).

The prison population may represent a vulnerable group therefore it is vital to understand and intervene with such behaviour. A number of research studies have found that approximately 50% of prisoners that commit suicide have a history of self harm behaviour (Dooley, 1990; Safer Custody Group, 2007). This behaviour can consequently have an emotional impact on the family of prisoners and prison staff that work with them (Lohner & Conrad, 2006).

Whilst 94% of individuals incarcerated in prisons in England and Wales are male (NOMS, 2008), the majority of literature on self harm has focused on female prisoners, (Loucks, 1998; Snow, 1997) and young offenders (Liebling, 1992). This may be due to a proportionately lower incidence of self harm in males compared to females (Safer Custody Group, 2007); however half of all self harm incidents on the prison estate are conducted by males (Howard League for Penal Reform, 1999; Safer Custody Group, 2007). Maden et al (2000) found that there is no significant gender difference in the number of times a prisoner may self harm in their life whilst in prison. In a study in a psychiatric unit by Nijman et al (1999) no significance difference was found in the incidents of self harm between male and female participants. This study highlights the importance of research to be conducted with male prisoners in relation to self harm, due to a limited level of research being conducted within this area (Lohner & Konrad, 2006).

Risk factors

A number of studies have looked at the risk factors that could increase the incidence of self harm in an individual. Such risk factors include substance abuse (Haw, Hawton, Houston, & Townsend, 2001; Klonsky et al, 2003), eating disorders (Alderman, 1997) and post traumatic stress disorder (Kiesiel & Lyons, 2001; Zlotnick et al 1999). Individuals that self harm are also likely to be diagnosed with borderline personality disorder (Dubo et al, 1997; Dulit et al, 1994; Shearer, 1994). Self harm also constitutes a symptom of borderline personality disorder within the Diagnostic and Statistical Manual of Mental Disorders (APA, 1994), which may explain a high co morbidity between self

harm and borderline personality disorder. Research conducted by Dear et al (2001) found that individuals with a history of violent and sexual offences have a higher incidence of self harm.

A number of studies have also found that within a prison population the environment is important in controlling for self harm. Self harm has been found to increase when individuals experience interpersonal difficulties with prison staff, or feel that they are being intimidated and bullied by fellow prisoners, (Dear et al, 2001). Furthermore the experience of being confined to their cells for long periods of time has also found to increase the frequency of self harm in prison (Liebling & Krarup, 1993).

In a review of self harm literature Yates (2004) argued that the majority of research on self harm is descriptive, rather than focusing on the psychological mechanisms that cause the development of such behaviour. The findings that have been presented so far illustrate the complexity of self harm, and what could trigger such behaviour, it is therefore important to understand what mechanisms may perpetuate and control such behaviour in order for interventions to be effective and appropriate.

Theoretical accounts

There is a general acknowledgement within the field that self harm is linked to childhood trauma (Briere & Gil, 1998; Favazza, 1999; van der Kolk, Perry & Herman, 1991). Specifically Chu and Dill (1990) found a link between child sexual abuse and self harm. Wilkins and Coid (1991) also found a relationship between childhood sexual abuse and self harm in adulthood in a prison sample. Lipschitz et al (1999) found that depending on the type of abuse that occurred during childhood, self harm can be predicted during adulthood. They found that emotional neglect was strongly associated with self harm, compared to physical abuse. Other variables that predict self harm following sexual abuse includes; prolonged periods of trauma compared to a one off incident; abuse by a known perpetrator; the use of force; and penetration.

Different theories have lead to diverse explanations for self harm. Within the literature a number of functions have been described that self harm

fulfils. In a recent literature review by Klonsky (2007) six themes for the functions of self harm were found. These are:

- Affect regulation
- Anti dissociation
- Anti suicide
- Interpersonal influence
- Interpersonal boundaries
- Self punishment
- Sensation seeking

The Affect regulation model (Klonsky, 2007) states that an individual seeks to alleviate negative feelings when they become intolerable and overwhelming, thus self harm is used to create a sense of control over that emotion and feeling (Allen, 1995; Herpertz 1995; Himber 1994).

Theorists such as Linehan (1993) postulate that due to experiencing invalidating environments during childhood, individuals that self harm are equipped with poor coping mechanisms to manage negative feelings, thus resort to utilize such coping behaviour responses. Using this understanding Linehan has proposed Dialectical Behaviour Therapy based on the bio social model of development to intervene with such behaviour. This model of therapy uses behavioural, cognitive and supportive interventions and has found positive results within research studies in forensic settings (Low et al, 2001a; Low et al, 2001b; Nee & Farman, 2005). Therefore by using theoretical understandings interventions can be formed to control and prevent such behaviour. However this research has only been conducted with females and based on small samples sizes therefore research would benefit from understanding the application of such practice to male populations, and using larger sample sizes.

An object relations perspective (Klein, 1948) has also been used to explain the affect regulation function (Suyemoto, 1998). This theory states that self harm is an expression of intolerable emotion that an adult uses to contain their needs and affect, which were not contained during childhood. Allen (1995) postulates following perceived abandonment could trigger anger, in a bid to prevent destruction of the other; the feelings of anger are redirected

to the self through self harming behaviour. Dench et al (2005) used Youngs Schema Questionnaire (Young, 1998) found that schemas of abandonment strongly predicted self harming behaviour whilst other schemas did not.

Similarly, Darche (1990) stated that self harm is used in order to gain a sense of control over intolerable emotions, such as uncontrollable events that create abandonment and rejection from others. Noshpitz (1994) further states that that an individual that experiences traumatic events during childhood develops a negative self introject, represented by a constant image of being '*dirty, wrong and in pain'*. Doctors' (1981) theorizes that an inability to cope with distressing emotions, which prevents a good object from being internalized, develops due to a negative relationship to the mother. He therefore hypothesizes that individuals that self harm have an inability to articulate their feelings therefore they resort to using self harm to express the intensity of their emotional turmoil. Doctors (1981) found that as children, self harmers were often discounted by their parents after expressing their feelings.

The above theory gives support to the affect regulation model; furthermore it is supported by a high correlation between childhood traumatic events and self harm (Briere & Gil, 1998). Therefore, invalidating environments where individuals are unable to develop effective means to cope with affect may predict self harm in adulthood. This understanding has an important contribution in intervening with self harm therapies such as DBT, which provides distress tolerance skills. Moreover, therapy from an object relations perspective may aim to contain and introject feelings of abandonment, through understanding projections[3], and allowing good object relations to develop within the therapy room to control self harming behaviour.

A critique of the object relations theory is that these concepts that are used are often difficult to capture using experimental studies data, and are based on the subjective experiences of therapists working with these clients. It therefore makes it difficult to find support empirical support for such theory.

The Anti dissociation model states that self harm is used as a response to dissociation, in order to feel 'real' and to stop a dissociative episode progressing. Dissociation has been described as being a psychological mechanism that is activated during experiencing traumatic events whereby

[3] From Klein's perspective.

the mind blocks off the experience. Gunderson (1984) has proposed that following a prolonged period of dissociation an individual may self harm in order to *'regain a sense of self'* and feel real again, this mechanism can be triggered by the sight of blood and feeling physical pain. Many accounts in research support this finding, within qualitative studies of self harm there are recurrent accounts of participants stating that they engaged in self harm in order to 'feel real again' (Harris, 2000). However this model does not explain other types of self harm such as overdosing and poisoning.

Brodsky et al (1995) found that the level of dissociative symptoms in females strongly predicted future incidents of self harm, rather than reports of physical or sexual abuse in childhood; however the tools used to measure abuse have been criticized as being unreliable. Therefore this study may not be able to conclude that dissociation leads to self harm. A number of studies have found that people that have a history of self harm exhibit greater dissociative symptoms compared to people with no history of self harm (Briere & Gil, 1998; Kiesiel & Lyons, 2001). Altogether these findings may illustrate that dissociation may play a role in subsequent self harm behaviour but the firm conclusions can not be inferred.

Research by Nijman (1999) used a standardized measure to find whether self harm is derived from child abuse. They used the Childhood Trauma Questionnaire (Bernstein & Fink, 1998) and the Dissociative Experiences Scale with a sample of psychiatric inpatients in Germany. The results indicated higher levels of dissociation in participants with a history of self harm, compared to participants that had no history of self harm. The study concluded that self harm originates from a history of abuse and neglect in childhood, and that self harm is linked to the ability symptoms of dissociation in adulthood. However a small sample of 54 participants makes it difficult for these results to conclude that there is a causal relationship between self harm and dissociation.

Theorists that have supported the anti dissociation model have recommended the use of psychodynamic therapy as a viable method of treatment. In a study by Nelson and Grunebaum (1971) 23 people with a history of self harm were given psychoanalytic therapy. It was found that following therapy participants developed a better ability in expressing feelings

such as anger and had effective means to control impulses. Ettinger (1992) when asking self harmers what factors they felt were beneficial in therapy they reported that a good therapeutic relationship was important, followed by an understanding of the meaning and function of the self harm. However many of these studies are dated and would benefit from investigating whether such behaviour still remains to be a predictive factor for self harm. Furthermore other types of therapy have developed (Linehan, 1993) that give clients the skills to express their emotions rather than just psychoanalytic therapy.

The *Anti suicide* model states that self harm is used to compensate for suicidal feelings and is used as a compromise against such urges. This model is based on psychoanalytic drive theories. Whilst there have been case reports that support this model (Friedman et al, 1972; Woods 1988), there is little empirical evidence to support it (Suyemoto, 1998). Again, this theory is based on unobservable phenomena that can be empirically tested therefore it is difficult to make firm conclusions.

The *Interpersonal influence* model states that self harm is used to manipulate and influence others. There is a common perception amongst prison staff that self harm is '*attention seeking and manipulative*' (Snow, 1997, p 58). Due to an individual being perceived as manipulative prison staff may punish them by prolonged periods of confinement in their cells and ignore them, which could lead to an individual feeling increasingly isolated, possessing a lack of self control, potentially leading to further self harming behaviour (Johnstone, 1997). Liebling et al (2005) has elaborated on this finding and stated that repetitive self harm can be perceived as a deliberate threat to prison officer's authority and therefore they use such measures to regain their authority and power. This is a useful model in conceptualizing the systemic influence of self harm.

The *Self punishment* model proposes that self harm is used as an expression of anger towards the self. When faced with emotional distress the individual soothes themselves by self harm. This model fits closely with the anti-dissociation model, and could be conceptualized as occurring after a dissociative episode has stopped. Very few studies have found support for this particular theory and therefore it has not been elaborated on. In the

authors clinical experience very few individuals have reported using self harm as an expression of anger.

Finally the *Sensation seeking* model states that individuals self harm in order to generate excitement. This particular approach has not received a lot of attention within research studies. Nijman et al (1999) found that there was no significant difference in sensation seeking between participants with a history of self harm and those with no history.

Self harm is therefore a multifaceted behaviour that could be indicative of expression of feelings, and a method to express emotions. Prison can often be an unpredictable environment whereby situations and feelings can not be controlled leaving an individual to feel helpless and therefore they use self harm as a method to control an inescapable culmination of feelings.

The clinical literature that has been presented for self harm illustrates that it is a well researched area. Studies have also investigated what factors could predict self harm and have examined the factor of dissociation (Briere & Gil, 1998; Kiesel & Lyons, 2001). Whilst a number of studies have found a link between self harm and dissociation, no studies to date have looked at this relationship in a prison sample amongst males. It would therefore be important to find whether particular theories described so far can be applied and conceptualized to the self harm behaviour that is prevalent in the prison population. The implications of such findings will be discussed in Chapter 1.8.

1.7 Substance abuse

Definition

Substance abuse has been studied for many decades and there are incidences described as far back as 4000 BC (Farrell & Finch, 1998). Various terms have been used to describe substance abuse; these include substance dependence, substance misuse, and drug use/ abuse/ misuse. Substance dependence is defined as *tolerance, withdrawal upon cessation of use, and unsuccessful efforts to control use and continued use despite the persistent psychological and physical problems associated with substance use* (APA, 1994).

Substance abuse was defined in the last Diagnostic and Statistical Manual for Mental Disorders Edition 4 (APA, 1994) as '*a maladaptive pattern*

leading to significant impairment or distress within a 12 month period and is characterized by one of more of the following:

- recurrent failure to fulfil major role obligations at work, school, or home
- recurrent experience of physically hazardous situations, for example driving a car whilst under the influence of a substance
- recurrent substance-related legal problems
- continued use despite recurrent social or interpersonal problems which are caused or exacerbated by the effects of the substance

This literature review will use the term substance abuse as it encompasses the use of alcohol and illicit drugs and takes account of the negative impact has on an individual's life.

Prevalence

Within the UK population substance use has been measured in a number of surveys. The British Crime Survey in 2005 found that 34.9% of a general population sample of 29,748 participants reported use of an illicit substance within their lifetime (Home Office, 2005). The study also found that males were more likely to report using illicit substances. The highest prevalence was reported for cannabis use (29.8%) whilst the lowest was for crack cocaine use (0.9%).

Studies have specifically investigated the prevalence of substance abuse within prisons. A survey by the Office of National Statistics (1999) using 3,142 participants throughout the prison estate found that up to 80% of their sample had a substance abuse disorder prior to custody. In a recent review by Fazel, Bains and Doll (2006) of the prevalence of substance abuse within prisons, a three fold variation in substance abuse and a six fold variation in alcohol use were found within studies. Up to 48% of prisoners were found to have difficulties with substance abuse, whilst 30% prevalence was found for alcohol use. This was based on international prison samples thus accounting for the variation within the results. Fazel et al (2006) found that the large variation in the reported use of substances were attributed to: differing sampling methods used; different criteria that constitute substance abuse; and the use of diverse screening tools, as some measures are more conservative than others. This is complicated by the prison population being so diverse, for

example adult local prisons are likely to have a higher incidence of substance abuse, compared to young offender institutions and open prisons.

Keane (1997) used a qualitative approach to interview prisoners and staff regarding drug use in prison. It was found that a number of prisoners misused drugs whilst in prison. Based on the interviews the themes generated included using drugs which acts as a calming effect, using drugs to pass time, and to cope with the stressful prison environment.

Theoretical accounts

There is a general consensus within the literature that substance abuse can affect an individual physically, psychologically and socially (Gossop et al, 1998) as well as having a harmful effect on society.

In a review of theories that have been proposed for the functions of substance abuse, West (2001) cites the many different models that have been proposed in the literature. These theories vary according to the effects of particular substances, for example stimulants such as cocaine and amphetamines provide experiences that heighten experiences and lead to individuals having increased confidence and masking low self esteem. Whilst depressants such as heroin and alcohol provide the dampening of affect. (Stewart et al, 1997)

West (2001) grouped theories that explain for the substance abuse into five categories, they are:

- conceptualization of general process,
- addictive effects of substances;
- individual susceptibility;
- environmental factors;
- recovery and relapse.

The conceptualization of general process theories focus on the biological, social and psychological processes that take part. For example the biological/ social models use the 'disease model' of addiction (Miller & Giannini, 1990), whilst psychological models focus on the cognitive and affective processes that are involved (O'Brien et al 1992; Wilson et al 1989).

The second group of theories focus on the addictive effects of substances, they describe the nature of certain substances, and that

individuals may continually want to experience the effects, the theories focus particularly on the positive reinforcing effects (Bozarth, 1994).

The individual susceptibility theories stipulate that due to genetic and environmental factors, particular individuals will be susceptible to developing problematic levels of substance use compared to others (Cheng et al, 2000; Silvia, Sorell & Busch-Rossnagel, 1988).

The environmental factors theories propose the environmental and social conditions promote substance abuse, in some groups compared to others. Particular factors include societal expectations (Hajema & Knibbe, 1998) and economic factors (Kenkel, 2001).

Finally the recovery and relapse models which are predominately based on the trans-theoretical model, (Prochaska, DiClemente & Norcross, 1992) describe the Stages of Change model. This model aims to show that changing behaviour is a process that can be promoted by using the 'inner resources' of the individual and motivational factors which help to stop problematic behaviour within substance use. However this theory does not appear to explain how substance abuse may develop, instead it focuses on how an individual can change their problematic behaviour. Much of the research conducted using this framework however is based on individuals that use cigarettes, therefore the consequences for stopping such behaviour may require '*inner resources*' whilst substance abuse involving Class A drugs may require additional pharmacological and psycho social support.

A criticism of these theories is that they are unable to explain types of substance abuse, as they only focus on one particular drug or use very specific samples. Additionally they fail to recognize that an individual may use substances for many different reasons.

A theory that has found much support is the self medication hypothesis presented by Khantzian (1985), (Reynolds et al, 2005). This theory proposes that individuals use substances to relieve themselves from and block out traumatic experiences, and other symptoms of PTSD. Stewart et al (1998) stated that substances such as alcohol and benzodiazepines are associated with memory impairments, supporting the idea that some people may use substances to facilitate the dampening and forgetting of traumatic memories.

Substance use and trauma

Within the research literature there is a consensus that there is a relationship between substance abuse and trauma (Chilcoat & Breslau, 1998; Reynolds et al, 2005). A number of studies in America have looked at this relationship and have found rates of PTSD up to 35% of participants with a history of substance abuse, and up to 52% for alcohol (Creamer et al, 2001; Kessler et al, 1995; Kilpatrick et al, 2000). Within the male population with PTSD, alcohol abuse has been found to be the most prevalent difficulty that is experienced, followed by depression, anxiety, conduct disorders and other the use of illicit substances (Kessler et al, 1995; Kulka et al, 1990).

A study by Bonn-Miller et al (2007) on a general population sample in America found that the use of cannabis is also related to PTSD. They found that motives for cannabis use were related to coping with PTSD symptoms. It was concluded that cannabis was used to control emotions relating to traumatic experiences and memories.

The first study in the UK that has examined the relationship between trauma and substance use was conducted by Reynolds et al (2005). They investigated a sample of 52 patients in a detoxification unit in London. They found that 51% of their sample had a lifetime diagnosis of PTSD, and 38.5% had a diagnosis of current PTSD. There are limitations of this study that do need to be considered; firstly a small sample size was used questioning the generalizability of the results. Secondly, the sample was based at an inpatient detoxification ward, therefore the participants were all on detoxification programmes for either alcohol or opiate based substances, these results may not be applicable to stimulant using populations, and therefore may only partially explain the co-morbidity between substance abuse and trauma.

Despite these limitations there is a need to investigate this area further; Ouimette et al (1997) stated that individuals with co morbidity of substance use and trauma are more likely to have psychological difficulties, and their difficulties have a social impact, for example committing crimes. They also stated that this population have a higher rate of other psychiatric disorders,

therefore this group of people may present to therapy with an array of difficulties which they would benefit from support with.

Within a prison sample a recent study by Salgado et al (2007) studied PTSD and substance abuse in female prisoners in America. They found that a greater severity of poly substance use was associated with greater levels of PTSD symptoms and dissociation. However this study was conducted in America with females therefore whether these results can be applied to a male prison population in the UK needs to be questioned.

Gibson et al (1999) examined rates of PTSD and substance misuse in an American male prison sample. From the sample of 213 participants 33% fulfilled the criteria lifetime PTSD. From this group 69% of the sample fulfilled the DSM III criteria for substance abuse. They did not find a significant difference in the level of substance abuse for participants with a diagnosis of PTSD compared to participants with no diagnosis for PTSD. The authors reported that this was due to use of non stringent criteria used by the DSM –III (APA, 1987), therefore a high proportion of participants were classified as having a problematic level of substance misuse. The DSM-III did not differentiate between abuse and dependence, and substance use that occurs for at least a period of twelve months. Despite the limitations of this study, it is important to examine whether a high co-morbidity of substance abuse and trauma also occurs in British prison population, as a high co-morbidity would have important implications for therapeutic practice when working in a prison.

Reynolds et al (2005) found that despite a high co morbidity rate between substance abuse and PTSD, only one participant had been referred for specialist PTSD intervention. As previously described substance use has the benefit of ameliorating PTSD symptoms, such as intrusions and flashbacks. In order to prevent relapse into substance use individuals with co morbidity would benefit from intervention for both difficulties rather than one.

To explain the co morbidity two groups of theories have been put forward, one that states the substance use precedes PTSD (Cottler et al 1992; Chilcoat & Breslau, 1998), whilst another states that PTSD precedes substance abuse (Keane et al 1988). Cottler et al (1992) state that due to the lifestyle that is associated with misusing substances individuals are at risk of experiencing traumatic experiences. For example being under the influence of

substances can effect the judgement of an individual, and therefore may be prone to entering threatening and dangerous situations. The second group of theories are within the realm of the self medication hypothesis previously described.

Miranda et al (2002) elaborates on the self medication hypothesis and purports that substance abuse reinforces the avoidance of traumatic and aversive memories, thus preventing the integration of memories. Based on the understanding of dissociation described in Chapter 1.4, this non integration of memories would reinforce dissociation by preventing the integration traumatic experiences.

Research by Widiger and Trull (1993) found high co morbidity between substance abuse and borderline personality disorder. Factors that have been theorized to explain this co-occurrence are trauma and abuse within childhood, and a family history of borderline personality disorder. This illustrates that the link between trauma and substance use is not linear and subject to many different factors.

In an attempt to explain the development of substance use Perry and Herman (1993) theorize that experiences that are traumatic during childhood lead to affective instability, inability/ lack of trust towards others, and using dissociative experiences. To cope with all of these experiences many individuals use substances to ameliorate the affect, despite the negative consequences that may ensue. For example, Kruedelbach et al (1993) found that in a sample of participants with diagnoses of co morbid substance use and borderline personality disorder, cravings would arise following negative emotional states, social rejection and tension compared to those without borderline personality disorder. Due to these findings it may be useful to generate positive coping strategies to deal with these triggers should they arise, thus potentially preventing substance abuse.

A critique of the studies cited above referring to substance abuse has the difficulty of attributing cause and effect; the studies are unable to demonstrate a clear causal relationship between substance abuse and PTSD.

Treatment

Based on the findings described the following review will present the effectiveness of current interventions used in prison. A review by Holloway et al (2005) found that psycho social and behavioural interventions were more effective compared to pharmacological approaches, such as methadone maintenance programmes. Perry et al (2006) reviewed studies focusing on effectiveness of prison substance abuse treatment. They found that Prison Therapeutic Communities[4] were found to be the most effective, compared to no treatment groups and other schemes, such as court based initiatives, pharmacological interventions and cognitive skills training. A number of methodological weaknesses are reported for this review. They measure successful outcome by a reduction in re offending rather than reduction in drug use, for example methadone programmes may stop offending, however individuals may continue to be relieving negative affect by using a prescribed drug. These reviews highlight the lack of interventions that have been shown to be effective within a prison population. Further research in this area could therefore inform effective interventions if an in depth knowledge regarding substance abuse is gained.

A recent study by Simpson et al (2007) evaluated the use of a 10 day Vipassana meditation programme amongst prisoners in America. They studied prisoners with PTSD and substance abuse difficulties, compared to prisoners with only a history of substance abuse and those that did not participate in the meditation programme. They found that significant improvements for substance abuse following the engagement in the programme, however no difference for PTSD symptom severity was found. This study could therefore illustrate the efficacy of introducing mindfulness techniques to prisoners to prevent substance use. However, this study is subject to a number of limitations, these include a small sample size, participants being able to choose whether they wanted to go onto the programme which could have caused bias in the changes elicited.

Very few studies have examined the relationship between dissociation and substance use. Weathers et al (1999) found a significant difference for symptoms of derealization, but not depersonalization amongst individuals that

[4] Therapeutic communities is an environment where prisoners spend 18-24 months working on decision making, exploring thoughts, feelings and behaviour specifically for prisoners with significant relationship difficulties.

abused many different substances. The study concluded that people with poly substance use and PTSD have different treatment needs compared to people with history of using only one substance and experiencing PTSD.

Within the literature there is growing amount of research demonstrating the link between PTSD and substance abuse; however there are very few studies that examine the relationship between substance abuse and dissociation. Given the high proportion of substance use prevalence within the prison population, it may be useful to look at this relationship, as it could benefit from intervention to reduce re-offending and PTSD symptoms.

1.8 Counselling Psychology and the therapeutic relationship

The literature that has been presented hitherto has focused on the theoretical debates and the prevalence rates of specific difficulties experienced in a prison population. The research presented has been predominately conducted by psychiatrists and mental health professionals, and is grounded within medical based models. Counselling Psychology is grounded in the '*primacy of the psychotherapeutic relationship*' (Division of Counselling Psychology, 2006). This branch of psychology aims to engage the subjective experience of the client and the values and beliefs that they hold. Furthermore with Counselling Psychologists being mindful of discrimination and power differentials within the clients' life, important implications when working in a prison where power and control are enforced over prisoners on a daily basis could be addressed by research. Based on this tradition this chapter will focus on the implications of working with trauma, dissociation, self harm, substance use and offending behaviour with a prison population.

There is no current published research literature that indicates what interventions Counselling Psychologists use within prison settings. Within the authors experience Counselling Psychologists provide support and crisis intervention for prisoners at risk of suicide and those that self harm.

Trauma and dissociation

A number of researchers have discussed the importance of working collaboratively with individuals with complex forms of PTSD (Pearlman &

Courtois, 2005). Complex PTSD can cause difficulties in attachment style; in adulthood therapy can go some way to support a reparation effect through a positive therapeutic relationship. Counselling Psychologists taking account of power differentials within the therapy room have the opportunity to build a positive therapeutic relationship, where they prevent exerting control and power over their clients, and thus avoid the re-experiencing of traumatic experiences where power has been taken away from individuals.

Whilst trauma difficulties appear extremely challenging in working with, Herman (1998) proposes that treatment should comprise of three stages: establishment of safety, remembrance and mourning of the trauma, and reconnection with 'ordinary' life. Herman argues that through a positive therapeutic relationship where there is equal power between the therapist and client, individuals will be able to use their positive relationship with individuals in their personal lives.

Dissociation has received much attention and has found to be resolved when a positive therapeutic relationship is formed (Pearlman & Courtois, 2005). Based on attachment theory Pearlman and Courtois (2005) theorize that individuals that experience childhood trauma develop maladaptive strategies such as avoidance and detachment, consequently they possess a restricted range of affect. These difficulties must therefore be understood through the context of the therapeutic relationship. The therapeutic relationship becomes the 'testing ground' for forming and sustaining relationships with others. In relation to dissociation Pearlman and Courtois state that individuals that endure traumatic experiences during childhood have an inability to regulate painful emotions, such as fear and rage and use dissociation to cope with such experiences. Therapy therefore needs to address dissociation when found in the therapy room, for example understanding transference in the therapeutic relationship. It therefore remains vital that Counselling Psychologists are aware of dissociative processes that are triggered in the therapy room by emotional intensity which is associated with past negative attachment relationships. By understanding and naming such phenomena Counselling Psychologists have the opportunity of strengthening the therapeutic relationship, by clients feeling understood.

Counselling Psychologists may find it extremely difficult to work with clients presenting with PTSD. Clients may find it difficult to talk about distressing events, and consequently may use dissociation to cope with talking about their experiences of trauma. This could consequently interfere in therapy, with clients having difficulty in comprehending therapeutic interventions, such as behavioural tasks (Spitzer et al, 2000). Thus clients may not appear motivated to deal with their difficulties.

Self harm

Through understanding what factors effect these complex presentations therapists can use effective tools to manage the therapeutic relationship with clients that present with such difficult and challenging behaviour. Within the clinical literature the most empirical research has found support for the affect regulation and anti-dissociation models (Suyemoto & McDonald, 1995). However no research to date has specifically looked at the relationship between dissociation and self harm within a prison sample in an overcrowded system. The emphasis on the therapeutic relationship given by Counselling Psychologists can provide an insight into self harm, with clients feeling understood and developing good object relations, rather than their behaviour being pathologised and intervened with based on the medical model.

Within prison, staff often label those that self harm as manipulative and attention seeking and adopt understandings as that proposed in the interpersonal influence model. Prisoners that self harm may experience difficulty in regulating emotion, this could be reinforced by being perceived by staff as manipulative and attention seeking. Therefore it is important for Counselling Psychologists to educate staff, by illustrating the complex nature of self harm.

When working with self harming behaviour in a prison, confidentiality may have to be broken following a disclosure of intent or self harm behaviour; this can affect the therapeutic relationship, as the client may feel an abuse of trust. Therefore if counselling psychologists can understand what may precipitate self harm, they may be able to prevent such behaviour, or forewarn the client that confidentiality may need to be broken for their own safety.

Individuals that have a history of self harm may be unable to verbalise their distress (Darche, 1990; Winchel & Stanley, 1991), which is an important implication within the therapy room. Clients may not be able to effortlessly talk about their emotions openly, a build up of frustration and dissociation could lead to self harm, which could seriously affect the therapeutic relationship, with client feeling that therapy is counter–therapeutic and the therapist could be left feeling helpless and blaming them self for such behaviour.

Substance use

In the author's clinical experience many clients have presented with a history of substance misuse. They regularly relapse back to misusing substances following inability to cope with emotions. It would therefore be useful to understand whether dissociation has a relationship with substance abuse. Counselling Psychologists with their humanistic roots can provide a unique therapeutic relationship that will provide trust where clients have a space to speak about their traumatic experiences, and allow for the introduction of skills to deal with intolerable affect that may be linked to traumatic experiences.

The importance of the therapeutic relationship has been reviewed with substance misusing populations. It has been acknowledged that this group can often be difficult to engage with (Gossop et al, 1999), this has been mirrored within the author's clinical experience, with high attrition rates and clients regularly not attending sessions. Gossop et al (1999) found that if a good therapeutic relationship develops towards the beginning of therapy, retention rates are improved, and a reduction in substance use occurs. Barber et al (2000) also found that a positive therapeutic relationship can have encouraging outcomes in later depression, and early symptom improvement amongst a substance misusing population. Generally, the review concluded that a good therapeutic relationship is often associated with a successful relationship history, secure attachment styles and social support, whilst these factors are not often prevalent in forensic populations; practitioners working with such populations need to be well equipped in maintaining a therapeutic relationship and working towards building a strong and positive alliance.

No studies to date have so far looked at the relationship and incidence of co morbidity between substance use and PTSD amongst the British prison population. By understanding this co-morbidity further mental health professionals working with these individuals need to differentiate whether difficulties relating to trauma need to be dealt with to prevent future substance misuse.

Offending behaviour

Counselling Psychologists working in prisons have a large number of clients presenting for therapy with a history of violent behaviour, in the author's experience these particular clients often find it difficult to engage in therapy and complete homework tasks. Due to the challenging and distressing nature of prison they may use dissociation on a regular basis to deal with the environment. It is therefore crucial for Counselling Psychologists working in this field to have an understanding of this phenomenon as is may need to be addressed when observed in the therapy room.

1.9 Research question

The literature that has been cited so far illustrates the relationship between trauma and dissociation. Specific authors have found that working with complex presentations within therapy can be draining and extremely challenging to professionals working within the field (Tarrier et al, 2000), it is therefore important to conduct research to make interventions and therapy useful to clients by gaining a greater insight into such mechanisms.

The majority of research in this area has used structured clinical tools to measure whether participants fit the criteria for dissociative identity disorder, post traumatic stress disorder and other diagnoses. The research has predominately been conducted by psychiatrists, who are grounded in medical based models, this does not concur with the humanistic roots of Counselling Psychology and therefore conducting research from this viewpoint may help to shed light on this behaviour from an alternative viewpoint. This is the first study within the field of Counselling Psychology that has investigated trauma and dissociation in a forensic population. The study will aim to build knowledge about the level of dissociation in a prison sample,

and whether the use of these psychological mechanisms predicts greater distress in prisoners.

Aims of study

Based on the literature that has been reviewed so far and the author's interest in self harm, substance use, trauma and the link this has to dissociation the following hypotheses have been formulated and chosen to be investigated in this study. Furthermore the author hypothesized that the presenting problems of self harm and substance use could be indicative of underlying trauma and other difficulties. Therefore the author decided to use empirical research to investigate whether these hypotheses could be supported or refuted. A critique of using such an approach is discussed in Chapter 5.

Hypothesis 1: There will be a significant difference between participants with a history of trauma experienced in childhood having higher scores on dissociation compared to participants with no history and trauma experienced in adulthood.

Hypothesis 2: There will be a significant difference between participants with a history of violent or sexual offending having higher scores of dissociation, compared to participants with other types of offences.

Hypothesis 3: There will be a significant difference between participants who are fantasy prone on history of substance abuse and/ or self harm.

Hypothesis 4: There will be a significant difference between participants presenting with a history of self harm having higher scores of dissociation compared to participants with no history of self harm

Hypothesis 5: There will be a significant difference between participants presenting with a history of substance abuse will have a) a greater number of

PTSD symptoms, and b) higher scores on dissociation, compared to participants with no substance use or recreational use.

Additional analyses will examine whether there is a relationship between substance misuse and offending behaviour, by investigating associations between committing certain offences and having a history of substance misuse. Tests will also investigate whether there is an association between experiencing trauma in childhood, or as an adult with committing specific crimes as an adult.

Chapter 2: Method

2.1 Design

The study used a quantitative design to answer the research question. A quantitative approach was favoured and utilized over a qualitative approach for a number of reasons. Firstly the author felt that in order to investigate all of the variables that were presented in the literature review quantitative approaches through the use of psychometrics have the benefit of being less time consuming in administration. Therefore a number of psychometrics can be used to measure many different variables, allowing for the investigation of the relationships between them. This method allowed for many participants being able to complete the questionnaires. Using other questionnaires such as the Dissociative Interview Schedule would have allowed quantitative methods to be used. However due to the time taken in administration of such a measure the sample size would have been restricted to a smaller amount of participants. Another reason for using a quantitative method the author felt that this particular methodology is an area of strength, and therefore realized that due to the amount of work that would be entailed using a quantitative approach would make the experience and process of research slightly less demanding.

It was previously stated that the author chose the variables under investigation based on personal interest, whilst it is acknowledged that there is bias in this particular method, it was hoped that by using a quantitative design would enable the objectivity in the study by using empirical measures that quantify experience and are not based on the interpretations of the researcher, which are more likely to occur when using qualitative measures such as Interpretive Phenomenological Analysis (Smith et al, 1999).

The design used to test the hypotheses varied according to the measures and details of the participants that were gathered. Hypothesis 1 had one independent variable (trauma). The variable of trauma had three levels:

(i) No trauma

(ii) Childhood trauma

(iii) Adulthood trauma.

Hypothesis 1, 2, 4 and 5 all were measured against the dependent variable of dissociation.

The design used to address the second hypothesis had the independent variable of type of offence. This variable constituted of 5 levels:

(i) Small scale acquisitive crime,

(ii) Large scale acquisitive crime,

(iii) Sexual offence,

(iv) Violent offence,

(v) Other crime.

The third hypothesis is based upon three independent variables: self harm (2 levels: self harm and no self harm), substance use (2 levels: problematic substance use and no problematic use) and trauma (3 levels, as described in Hypothesis 1). The dependent variable used to address this hypothesis is fantasy proneness.

The fourth hypothesis is based on two independent variables self harm (2 levels) and trauma (2 levels), thus creating a 2 x 2 design. The basic design that is used to address Hypotheses 5 is based upon the independent variable of substance use.

Substance use had three levels:

(i) no substance use

(ii) recreational substance use

(iii) problematic substance use

The variable of trauma has two levels self reported experience of trauma or no reported trauma, therefore creating a 3 x 2 design. Within this part of the study the dependent variables that it was measured against were:

- dissociation
- symptoms of trauma

Subsidiary analysis were also conducted using the demographic details (see Appendix A) that were captured, and will be used to create further variables used within the analysis. These variables are:

- Offence type
- Age of traumatic event
- Substance use.

2.2 Participants

Participants were all recruited from HMP Wandsworth, a large local prison in South West London holding male prisoners over the age of 21. The prison serves the local courts within London and holds up to 1400 prisoners who are either awaiting a sentence, or have been sentenced for a crime. HMP Wandsworth has a high turnover of prisoners, with people being sent to court on a daily basis for trials and sentencing.

Altogether 119 prisoners participated in the research. The exclusion criteria applied was to prisoners that reported that they were unable to read English, and understand the questionnaires, and prisoners that were housed on the induction wing and had just come into prison.

Prisoners were approached after their names were randomly selected from the prison database. The majority of prisoners that were approached to take part agreed; however a proportion declined. This data was not collected; therefore reasons for declining and attrition rates can not be calculated. Three prisoners refused after being informed that the research was based partly on traumatic events, and due to this reason they did not want to participate. Other prisoners stated that they were too busy, and the time that they were approached was the only period that they got out of the confinement of their prison cells, and therefore wanted to spend that time making phone calls and talking to other prisoners. Demographic details of the prisoners that refused to participate were not collected. Whilst, other prisoners stated that they did not want to take part and complete questionnaires, without giving a particular reason. During or after completion none of the prisoners opted out of the research.

The age of participants ranged from 21 to 66 years of age. The mean age of participants was *35.8 years (SD = 9.77)*. The ethnicity of the participants varied with 49.5% being White British, 24% being of Black origin 5% being of Asian origin, and 20% fitting the other categories of mixed race, Eastern European and Chinese. Table 1 below illustrates the exact ethnic breakdown of the participants of the participants, alongside the population of the prison used. The figures below show that an ethnically representative sample was used within this study.

Ethnicity	Number of participants	Percentage	Ethnic breakdown of population
White British	53	49.5%	44%
White Irish	6	5.6%	2%
White Other	8	7.5%	15%
Black Caribbean	16	15.0%	16%
Black African	8	7.5%	9%
Asian Indian	4	3.7%	2%
Asian Bangladeshi	2	1.9%	1%
Mixed Black	4	3.7%	1%
Black Other	1	0.9%	3%
Other	5	4.7%	7%
Total	107	100.0%	100%

Table 1. Table of ethnic breakdown of participants and prison population

The majority of the participants had been sentenced for committing a crime (71%) at the time of completing the questionnaires, whilst other participants were on remand and were therefore either on trial or, were convicted and awaiting sentence (28%), finally one participant was awaiting deportation (1%).

2.3 Materials

The independent and dependent variables were measured using a range of 4 measures.

Dissociative Experiences Scale

To measure the dependent variable of dissociation the Dissociative Experiences Scales (DES) (Appendix B) was used (Bernstein & Putnam, 1986). The DES consists of 28 items asking questions such as *'Some people have the experience of feeling that their body does not seem to belong to them'*. Each item requires the participant to mark the frequency of time they have these experiences, ranging from 0% to 100% with increments of 10%. Participants are asked to rate the percentage of time these experiences have occur at times when they are not under the influence of drugs or alcohol. A total score is then computed as the mean percentage across all of the items.

Factor analyses by Ross, Joshi and Currie (1991) on this measure have revealed the following three factors

- amnesia
- detachment/ depersonalization
- absorption.

The amnesia subscale taps into dissociative amnesia experiences which are characterized by an inability to bring normally accessible information into conscious awareness. Questions that are asked include 'Some people have the experience of finding themselves dressed in clothes that they don't remember putting on' and 'Some people have the experience of finding new things among their belongings that they do not remember buying'. The detachment/ depersonalization subscale asks about experiences that involve an altered state of consciousness with a sense of separation from everyday experience, for example out of body experiences. Examples of questions on this subscale included 'Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something they actually see themselves as if they were looking at another person' and 'Some people have the experience of feeling that their body does not seem to belong to them'. Finally the absorption subscale asks about experiences such as 'Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time'.

Waller, Putnam and Carlson (1999) compared the DES scores of clinical populations where participants had received a clinical diagnosis of dissociation, with participants from general populations without a diagnosis of dissociation. They found that specific items on the scale can be scored to create the Dissociative Experiences Scale– Taxon (DES-T) which indicates pathological dissociation as described by the DSM IV (APA, 1994).

The DES has been found to be a reliable and valid tool; various studies have found varying rates of reliability ranging from .83 to .93[5]. (Carlson & Putnam, 1993; Carlson et al., 1993; Dubester & Braun, 1995; van-IJzendoorn & Schuengel, 1996). The measure has also found to strongly correlate with other measures of psychopathology (Ross, Joshi & Currie, 1991). A number

[5] This study revealed a high alpha level of 0.96. (Appendix N)

of studies have also found that DES scores correlate significantly with self reported traumatic events (Chu & Dill 1990; Nijman et al 1999). The DES has been described by Kluft (1993) as the '*most widely used screening instrument in the dissociation disorders field'* It has been used with in many studies in both clinical and general populations.

The DES has also been used in several studies within a prison sample (Carrion & Steiner, 2000; Friedrich et al., 2001; Simoneti, Scott, & Murphy, 2000; Snow et al 1995). Whilst these studies have used Western samples they have not been used on a British prison sample.

Substance Abuse Subtle Screening Inventory (SASSI)

To measure the variable of substance abuse the SASSI-3 (Miller et al, 1997) was administered (Appendix C (i)). The measure consists of two parts. The first part consists of *'face valid'* items where participants are asked about the frequency of problematic substance using experiences, questions include; the frequency of getting into problems at work or school because of alcohol, and the frequency of using drugs to forget feelings of helplessness and unworthiness. There are twelve questions on alcohol use and a further fourteen questions on drug use.

The second part of the measure consists of the '*Subtle'* items, these have no apparent link to substance use; this part of the measure is used to identify those participants that may not acknowledge their substance use as problematic. Participants are asked to mark 67 statements either to resemble true or false to their personal life. Items on this part of the measure include 'at times I have been so full of energy that I felt I didn't need to sleep for days at time' and 'sometimes I wish that I could control myself better'.

The subtle section of the measure consists of 8 subscales; symptoms, obvious attributes, subtle attributes, defensiveness, supplementary addiction measure, family vs control subjects, correctional and random answering pattern.

- 'Symptoms' subscale, high scores indicate an acknowledgement of the problems that illicit substances/ alcohol have caused them.
- 'Obvious attributes' measures common characteristics that are associated with substance misuse.

- 'Subtle attributes' measures characteristics that may be used to attempt to conceal substance misuse behaviour.
- 'Defensiveness' measures participants who may be attempting to minimize current problems; this measure is used in conjunction with the next subscale of supplementary addiction measure. If scores on these two subscales are elevated then it is argued that the participant may be defensive about their substance use.
- 'Family vs control' looks at whether significant others have any problems with substance misuse.
- 'Correctional subscale' measures the extent to which participants show similar problems to people with substance use problems within criminal justice settings.
- 'Random answering pattern' measures whether the participants responses are meaningful, scores of 2 or above on this subscale may indicate problems with understanding the questions and renders the answers given on the whole measure as void.

In order to calculate scores of these subscales Miller et al (1997) have devised nine rules. For example a raw score of 7 or more on the 'obvious attribute' trait and a raw score of 5 or more on the 'subtle attribute' trait would indicate a substance abuse disorder according to the measure (see Appendix C (ii) for all rules and calculations).

The measure has been tested for its reliability, the coefficient alpha for the entire measure was found to be .93 (Miller et al, 1997). The norms of this measure have been based on a prison population; therefore this measure is relevant and applicable to the current study.

Impact of Event Scale – Revised (IES-R)

The IES-R (see Appendix E) was used to measure the impact of traumatic events, and is based on the DSM-IV criteria for post traumatic stress disorder (Weiss & Marmar, 1997). The IES-R consists of 22 items measuring different aspects and symptoms that follow the experiencing of a traumatic event. Questions that are asked include 'I have stayed away from reminders of it' and 'I had strong waves of feeling about it'. Participants are

asked to rate in the last seven days how distressing symptoms relating to a traumatic experience have been. They are asked to rate on a scale of 0 to 4; 0 indicating 'not at all'; 1 indicating 'a little bit'; 2 indicating 'moderately'; 3 indicating 'quite a lot' and 4 indicating 'extremely'.

This measure has the following three factors: intrusion, avoidance and hyper arousal (Weiss & Marmar 1997). Intrusion relates to questions regarding Criteria B of PTSD in the DSM IV (APA, 1994). Questions asked the frequency of 'Any reminders brought back feelings of it' and 'I had waves of strong feelings of it'. The avoidance subscale relates to the criteria C of PTSD and asks questions such as 'I stayed away from reminders about it' and 'I tried to remind it from my memory'. The hyper arousal subscale asks questions such as 'I had trouble concentrating', and 'I felt watchful and on guard'.

This measure has found to be very reliable, alpha scores have varied from .79 to .92 for the factors (Briere, 1997; Creamer, Bell & Failla, 2003). The measure has also been shown to have good predictive validity as results have shown that it can detect differences in the severity of a traumatic event. Creamer et al (2003) have also found that a cut off score of 33 or more on this measure constitutes a level that can diagnose PTSD.

Tellegen Absorption Scale

The Tellegen Absorption Scale (Tellegen & Atkinson, 1974) was used to measure the trait of fantasy proneness (Appendix E). This measure is a self report questionnaire with 34 items which measures absorbing and self altering experiences. Participants are asked to score never, sometimes, often or always, giving a score of 0-3. Items on this measure include 'When I listen to music, I can get so caught up in it that I don't notice anything else' and 'I like to watch cloud shapes change in the sky'. The measure assesses the tendency of an individual to become absorbed and involved in everyday activities. It also measures the extent to which an individual experiences events outside reality whilst engaging in fantasy.

The measure has the following five factors: sensory/ perceptual absorption, intuition, imaginative involvement, trance, nature and language. Factor 1 included involves absorption in sensory and perceptual experiences

and asks questions such as 'Certain pieces of music remind me of pictures or moving patterns of colour'. Factor 2 tapped experiences of intuition and insight, questions asked on this factor included 'I often know what someone is going to say before he/she says it'. The factor of imaginative involvement asked questions such as 'If I wish, I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does'. The fourth factor of trance states or mystical experiences asked questions such as 'I sometimes 'step outside' my usual self and experience an entirely different state of being'. The final factor involves positive emotional involvement in nature and language and asks questions such as 'I can be greatly moved by eloquent or poetic language'.

2.4 Procedure

Participants were approached randomly according to their location within the prison. A list of names was randomly selected from the Local Inmate Database (LIDS), which is a large database which holds all of the details of each prisoner within the prison on that particular day.

The selected prisoners were then approached and asked whether they would like to participate in research that involved completing a range of questionnaires, which would take approximately twenty minutes to half an hour of their time. If they agreed they were asked to enter a room where they could complete the measures in a quiet space away from the busy environment of a normal prison landing and would be given further information.

Participants completed the questionnaires in groups, this varied from 2 participants to 10. The variation in the number of participants completing the questionnaires occurred according to the number that were willing to participate, and the size of the available interview room. Once they were seated within the allocated interview room they were asked to read the information sheet (Appendix F (i)), which explained what would be required of them. Participants were informed that they would not receive any rewards or incentives for taking part and participation was entirely voluntary. Also they were informed that the answers they provided would be anonymous, and not be disclosed to prison staff. All of the participants were also informed that

there would be no right or wrong answer, and were encouraged to answer the questionnaires honestly as no deception was involved. Participants were also informed that the normal confidentiality rules apply, and that any disclosures regarding self harm, suicide, breach of prison security would need to be passed on to other departments within the prison, however none of the questions within the measures would be able to gain this information.

After reading the information sheet and if participants agreed to take part they were given the consent sheet to sign (Appendix F (ii)) along with all of the measures that have been described within the material section.

Participants completed the demographics sheet first followed by the questionnaires. To control for order effects a systematic method was used to counterbalance the questionnaires; therefore participants had completed the questionnaires in a different order from one another.

In order to prevent participants feeling that the measures were monotonous and endless, and feeling that they had not got through them, the measures were printed in different colours. This system was also used to avoid confusion both to the researcher and the participants. Using this method aided the researcher in ensuring that each participant was issued with all of the measures, and none were missed out, both within the administration and collection after completion.

Following completion of all of the measures, participants were asked whether they had any questions. Once they had completed the questionnaires participants were sent back to their cells. They were also informed that if they had any questions at a later time that they could put in an application to see the researcher who would see them at the earliest possible time. Any participants that looked distressed or agitated were asked about how they were feeling. They were then questioned about their particular experience of completing the questionnaires. Furthermore suicidal ideation and self harm was questioned if the researcher felt that the participant looked distressed. None of the participants that looked distressed disclosed suicidal or self harm intent, therefore the ACCT process where a breach of confidentiality would be needed, did not occur.

Participants that were already known to be at risk of suicide or self harm, were asked they how they felt following completion of the measures

and an entry was put into their ACCT document, detailing that they had participated in research.

Data was collected at various times during the week. The researcher collected data over the weekend as well as weekdays. This method was utilized as the prison regime is relaxed during the weekend due to lower staffing levels, with prisoners remaining on the prison landings rather than going to other locations such as work and education classes. Therefore access to prisoners and potential participants was less restricted compared to weekdays.

2.5 Ethical Considerations

In order to conduct the study ethical approval was obtained from the Psychology departments research ethics review panel at London Metropolitan University. The guidelines issued by the British Psychological Society in conducting research with human participants were applied and adhered to in considering the ethical dilemmas faced within the research (BPS, 2006). Permission was also gained from the Head of Safer Custody within the prison after the researcher had gained ethical approval from London Metropolitan University. As required in the Prison Service Order 7030 which states that in order to conduct research within prison permission must be received from the appropriate governor grade, and ethical approval from a university.

Firstly participants were fully briefed on the aims of the research and that no deception was involved. Secondly, as the research was conducted with detained individuals they were informed that their participation was entirely voluntary, they had the right to refuse to participate, or they could withdraw at any time, and none of their rights or earned privileges would be affected throughout or after completing the research.

During completion of the measures participants were informed that confidentiality would not be broken based on the answers provided on the measures, apart from the question on self harm within the demographics sheet. Furthermore, they were instructed that participating would have no input into decisions made at court, for example for sentencing, or in decisions made at a parole board.

Participants were informed that confidentiality would be maintained unless certain disclosures (according to the Prison Service Confidentiality guidelines) were made. Specifically if they reported current or recent thoughts of self harm this would warrant a breach of confidentiality. One of the questions on the demographics sheet asked about thoughts of self harm. Some of the participants had completed this part and did write about recent thoughts; this was questioned and was found to be already known to staff, whereby the prisoner was receiving the appropriate support through a process known as ACCT (Assessment, Care in Custody and Teamwork, 2005). In the case where participants were subject to an ACCT, following the completion of the questionnaires they were asked how they felt, an entry was written into their ACCT document stating that they had completed research and how they felt following completion.

Prisoners that had just come into prison and were housed on the induction wing where they would spend their first week were not approached. The author made the decision that it would be unethical to ask them to complete questionnaires when they may be adjusting to the challenging environment of prison, and receiving lots of information.

2.6 Pilot study

A pilot study was conducted in order to ascertain how many participants would be required in order to prevent the reporting of a type II error whereby having too participants would report significant differences between groups whilst there were no actual differences. The pilot study was conducted after data was collected from 62 participants. A power analysis using the statistical programme of G Power version 3.0.8 (Faul 2006) was used to measure how many participants would be required in the final sample to prevent the reporting Type II errors. The power analysis (Appendix G) revealed that a total of 72 participants would be required to have an adequate level of power. The author decided that within a specific time frame as many participants as possible would be recruited to allow for a range of statistical tests to be conducted on the large number of variables that were gathered.

The only change that was made following the pilot study was to the demographics sheet. On the question relating to the number of times that

people experienced traumatic events it was found during the gathering of the data participants had given vague statements such as a few or many times, it was therefore decided that it would be beneficial to give participants the options of 0, 1-4, 5-9 or 10 or more.

Chapter 3: Results

In this chapter the proportion of the sample that was in the categorical groups for the variables that were investigated will firstly be described. This will be followed by the statistical tests for the hypotheses being investigated. They will by tested by conducting inferential statistics that are appropriate to the data that is handled.

From the 119 completed set of questionnaires (demographics sheet, Dissociative Experiences Scale, Impact of Event Scale- Revised, Substance Abuse Subtle Screening Inventory and Tellegen Absorption scale), 11 were classified as spoilt and were therefore eliminated from the final analysis; this was due to a large number of unanswered questions on more than one of the measures.

3.1 Categorical groups

The table below illustrates what proportion of the sample reported the variables that were analysed.

Factor	Yes (%)	No (%)
Trauma (Self reported)	52	48
Trauma (IES-R cut-off)	45	55
Pathological dissociation	28	72
Self harm	31	69
Substance use	51	49

Table 2. Proportion of participants in different categories in the sample.

The table above illustrates that over half of the sample reported to have experienced a trauma. When trauma was examined using the data gained from the Impact of Event Scale –Revised under half of the sample reported symptoms that could indicate a diagnosis of PTSD. The results of the Dissociative Experiences Scale revealed that 28% of the sample experienced symptoms that would constitute a pathological level of dissociation (Waller, et al, 1999). Just under a third of the participants reported incidents of self harm in their life. Finally just over a half of the sample according to the SASSI had a problematic level of substance misuse.

3.2 Trauma and dissociation

The first hypothesis examines the relationship between self reported trauma and dissociation. In so far it was predicted that *participants with a history of trauma that was experienced in childhood would have higher scores on dissociation, compared to participants with no history of trauma and trauma experienced in adulthood.*

The data was not normally distributed, however Howell (2002) states that parametric tests are sufficiently robust to withstand the violation of this assumption. The variance of both groups was found to be similar therefore fulfilled a major assumptions required for parametric tests to be conducted.

The table below shows the mean scores on the Dissociative Experiences Scale (DES) and the standard deviations of each group.

	Mean DES score	*SD*	N
No reported trauma	1.93	*1.75*	53
Childhood trauma	3.00	*1.50*	21
Adult trauma	2.36	*1.74*	33

Table 3 Means, SD's on DES for trauma history and age of different groups.

The mean scores for each group revealed that participants that reported trauma as a child (under the age of 16) had a higher mean score for dissociation, followed by the participants that reported experiencing a trauma in adulthood.

The group with the lowest mean score were participants that did not report experiencing a traumatic experience. A one way ANOVA (Appendix H (i)) was conducted on the scores for the three groups to examine whether the differences in the scores were significant. The one way ANOVA revealed a significant effect for trauma groups, $F(2,104) = 3.021$, $p = 0.002$. To examine whether the difference was significant across all three groups a Dunnetts C post hoc test was conducted. It confirmed a significant difference between the no trauma and childhood trauma groups only ($p<0.05$). Effect sizes were calculated, a medium effect between the no trauma and childhood trauma groups was found ($d=0.6$); a small effect between the no trauma and adult trauma groups was found ($d= 0.2$); and a moderate effect between the adult trauma and childhood trauma groups ($d=0.4$). The effect size quantifies the

difference between groups based on the divergence of the standard deviations between the groups, and is independent of the sample size. Haase, Waechter and Solomon (1982) state that within Counselling Psychology research a medium effect size should be sought.

To examine the difference further a series of one way ANOVAs (Appendix H (ii)) were conducted on the subscales of the DES and the DES-taxon. The table below shows the mean scores for each of the subscales for the three groups of: no traumatic event, childhood trauma and adult trauma.

DES subscales	Amnesia		Depersonalization		Absorption		DES-taxon	
	Mean	*SD*	Mean	*SD*	Mean	*SD*	*Mean*	*SD*
No reported trauma	1.84	*1.88*	1.14	*1.81*	2.50	*2.04*	*1.37*	*1.83*
Childhood trauma (0-16)	2.86	*1.71*	2.09	*1.98*	3.79	*1.85*	*2.32*	*1.83*
Adult trauma 17+	2.16	*1.70*	1.49	*2.06*	3.17	*2.21*	*1.9*	*2.11*

Table 4. Means and SD on the subscales of the DES for the age of trauma variable.

The table above shows that the group with the highest mean score on each of the subscales of the DES and the DES-taxon is the participants that reported experiencing a traumatic event during childhood, followed by participants that reported experiencing traumatic events during adulthood. Whilst those that reported not experiencing any traumatic events had the lowest scores on each of the subscales.

Separate one way ANOVA's were conducted to elucidate whether the differences between the trauma age groups were significant on the subscales. A significant effect was found on the amnesia subscale of the DES, $F(2,104) = 2.42$, $p = 0.047$. A Dunnetts C post hoc test was conducted, but did not reveal any significant differences between the three groups at a significance of p=0.05. The tests also revealed a significant difference on the subscale of absorption among the three groups, $F(2,101) = 3.065$, $p = 0.025$. A Dunnetts C post hoc test revealed a significant difference between the no trauma and childhood trauma groups ($p<0.05$). A significant difference was not found on the depersonalization or DES-taxon scale.

Impact of events and dissociation

The Impact of Event Scale – Revised was used to measure the distress levels of participants according to symptoms they had experienced within the last seven days at the time of participation. A correlation (Appendix H (iii)) was conducted to determine whether there is a relationship within the sample between the impact of traumatic events and dissociation. A moderate positive relationship was found between the two measures $r\ (107) = +.524,\ p < 0.01$). Based on these results further calculations were made, 27% of the variance in the relationship trauma symptoms can be attributed to dissociation ($r^2 = 0.27$).

Further correlations (Appendix H (iv)) were conducted between the subscales of DES and the subscales of the IES-R, to find what components of dissociation may have a closer relationship to trauma symptoms compared to others. The table below shows that both measures and subscales had a positive significant moderate correlation. The strongest correlations were found between the absorption subscale of the DES and the IES-R mean score and its subscales. The weakest correlations were found between the amnesia subscale of the DES, with the IES-R subscales. The weakest association was found between the amnesia subscale and the avoidance subscale.

	DES Total	Amnesia	Depersonal-lzation	Absorption	DES-taxon
IES-R Total	+.524**	+.416**	+.416**	+.548**	+.443**
Avoidance	+.459**	+.366**	+.369**	+.493**	+.376**
Intrusions	+.529**	+.431**	+.431**	+.545**	+.465**
Hyper-Arousal	+.550**	+.450**	+.450**	+.553**	+.469**

Table 5. Table of r values for subscales of DES and IES-R (**Correlation is significant, p<0.01 level, one tailed)

Cut off for IES-R for diagnosis of PTSD

Creamer et al (2003) have stated that a mean score of 33 or over on the IES-R could indicate PTSD symptoms that constitute a level that could diagnose PTSD. The results revealed that 44% of the sample was experiencing symptoms that would constitute a diagnosis of PTSD at the time of participation in the research.

An independent t test (Appendix H (v)) was conducted to examine whether there was a significant difference in dissociation between participant with a score of more that 33 on the IES-R, and participants with a score below 33. The trauma group had a lower mean score on the DES (M= *3.10*, SD= *1.61*), compared to the non trauma group (M= *1.6*, SD= *1.55*). The independent t test revealed that there was a significant difference between the two groups, $t\ (105) = 4.87,\ p < 0.001$.

Summary

The research hypothesis regarding the relationship between childhood trauma and dissociation has been supported. The results revealed that participants that experienced trauma in childhood compared to other groups scored higher on the dissociative trait of absorption. The results also revealed a positive correlation between dissociation levels and symptoms of PTSD.

3.3 Offending and dissociation

The second hypothesis examined the relationship between offending and dissociation. The research hypothesis stated that *there will be a significant difference between participants with a history of violent or sexual offending having higher scores of dissociation, compared to participants with other types of offences.* For the purpose of analysis offending was classed into 5 groups: small acquisitive offence, large acquisitive offence, violent offence, sex offence and miscellaneous offences. The means on the DES for each group were calculated, and are illustrated in the Table 6 below.

Offence category	Mean	*SD*	N
Small acquisitive offence	2.02	1.47	19
Large acquisitive offence	1.49	1.25	25
Violent offence	3.12	2.02	31
Sexual offence	2.16	1.68	20
Miscellaneous offences	2.30	1.94	8

Table 6. Means, SD on the DES for offence type

Table 6 above shows that the group with the highest score for dissociation is participants convicted or charged for committing a violent offence. Participants that were in this group had been accused of committing the following offences: robbery, firearm offences, grievous bodily harm, aggravated bodily harm, false imprisonment and murder.

The group that scored the lowest were participants that were in prison for committing a large scale acquisitive offence. Participants classed in this group had been convicted of committing the following offences: fraud, money laundering and supplying drugs.

A one way ANOVA (Appendix I (i)) was conducted to see whether the difference in DES scores among the offence groups was significant. The test revealed a significant difference, $F\ (4, 98) = 3.439,\ p = 0.011$. A Dunnetts C post hoc test revealed a significant difference between the large scale acquisitive offence and violent offence groups ($p<0.05$).

Subscales of the DES

A series of one way ANOVAs (Appendix I (ii)) were conducted to further examine the difference between offence type and dissociation. The tests aimed to investigate whether a particular component of dissociation that has a specific relationship with the offence type by testing the subscales of the DES and the DES – taxon. Table 7 illustrates the mean scores and standard deviation of each subscale.

DES Sub-Scales / Offence Category	Amnesia		Depersona-lization		Absorption		DES-taxon	
	Mean	*SD*	Mean	*SD*	Mean	*SD*	Mean	*SD*
Small acquisitive crime	1.89	*1.68*	1.02	*1.25*	2.63	*1.94*	1.32	*1.53*
Large acquisitive crime	1.3	*1.27*	0.53	*1.12*	2.37	*1.86*	0.85	*1.09*
Violent offence	3.19	*1.96*	2.43	*2.49*	3.70	*2.15*	2.77	*2.40*
Sex offence	1.97	*1.72*	1.28	*1.70*	2.84	*2.32*	1.53	*1.66*
Miscellaneous	1.81	*1.69*	1.63	*1.71*	2.87	*2.10*	1.81	*1.91*

Table 7. Means, SD for offence type on the DES subscales.

Table 7 above illustrates that the participants convicted of a violent offence have the highest mean score on all of the DES subscales, whilst

participants with large acquisitive offences have the lowest mean scores on all of the subscales.

Separate one way ANOVAs were performed the subscales of the DES among the offence type groups. A significant difference was found on the amnesia subscale, *F (4,103) = 4.909, p = 0.001*, the depersonalization subscale *F (4,103) = 4.35, p = 0.003*, and the DES- taxon, *F (4,102) = 4.41, p =0.002.* A significant difference was not found on the absorption subscale. A series of Dunnetts C post hoc comparisons revealed that for the amnesia, depersonalization subscales and the DES- taxon a significant difference occurred between the large acquisitive offence and violent offence groups ($p<0.05$).

3.4 Fantasy proneness, self harm and substance use

Another aim of the study was to examine the relationship between substance use and self harm with fantasy proneness as measured by the Tellegen Absorption Scale (TAS).

Hypothesis 3

The following analyses will aim to answer the following non directional hypothesis: *There will be a significant difference between participants with a history of substance abuse and/ or self harm on levels of fantasy proneness.* Outliers were checked using standardized scores, none were found.

Self harm and fantasy proneness

The mean scores on the TAS were calculated for participants that had a history of self harm and those with no history of self harm. It was revealed that participants that reported a history of self harm had a higher mean score, (M = *40.97*, SD = *24.49*) and were therefore more fantasy prone, compared to participants that had not self harmed (M= *29.85*, SD = *20.56*).

To examine whether self harm had a significant effect on fantasy proneness an independent t test (Appendix J (i)) was conducted, the t test revealed that the difference between the two groups was significant, *t (105) = 2.254, p = 0.026*. To measure the magnitude of the difference between the groups, that is independent of the size of the sample used, the effect size was

calculated. A medium effect was found (d=0.5). This result illustrates that a difference between the groups has not occurred by chance.

Subscales on fantasy proneness

To examine the relationship between fantasy proneness and self harm further the subscales on the Tellegen Absorption Scale were examined. The table below shows the mean, standard deviation, t value, level of significance (p) and effect size (d) for each subscale

	No self harm		Self harm		t	p	d
	Mean	*SD*	Mean	*SD*	value	level	
Sensory absorption	7.32	*6.52*	10.45	*7.61*	2.05	0.045	0.4
Intuition	7.45	*4.87*	10.56	*5.67*	2.71	0.009	0.6
Imaginative involvement	7.15	*5.21*	9.24	*5.63*	1.82	0.07	0.4
Trance	2.47	*2.62*	4.24	*3.5*	2.90	0.005	0.6
Nature and language	5.39	*3.25*	6.91	*4.28*	2.02	0.046	0.4

Table 8. Means, SD's, t values, significance levels and effect size for subscales of TAS for self harm and non self harm groups.

A series of independent samples t tests (Appendix J (ii)) were conducted to determine if the differences in the mean score on each factor were significantly different between the self harm and no self harm groups. The results above show that participants that reported a history of self harm scored higher for all subscales for fantasy proneness compared that reported no history of self harm. A significant difference was for each of the subscales apart from imaginative involvement. The largest difference was found for the trance subscale, $t\ (105) = 2.90,\ p = 0.005$. The results also revealed that a medium effect occurred within all of the subscales. This illustrates that the likelihood of making a Type II error is improbable, and that the significant difference between the groups is unlikely to have occurred by chance.

Self harm, reported trauma and fantasy proneness

A further analysis was conducted to examine whether being fantasy prone acts as a protective factor or a risk factor to self harm, for participants that have reported experiencing a traumatic event. Participants with a history of self harm had a higher mean score (M = *42.57*, SD = *25.51*), than participants with no history of self harm (M = *31.33*, SD = *19.81*). To examine whether this difference in the scores was significant an independent t test (Appendix J (iii)) was conducted. The t test did not reveal a significant difference.

Subscales of the TAS

To examine this relationship further and to see whether there are specific factors within fantasy proneness that have a relationship with self harm the subscales within the TAS were examined. The table below illustrates the means and standard deviation for each subscale. The results revealed that that the self harm group had a higher mean score on the TAS compared to the no self harm group.

	No self harm		Self harm		t	p
	Mean	*SD*	Mean	*SD*		
Sensory absorption	7.57	*6.38*	11	*7.95*	*1.64*	*0.11*
Intuition	7.6	*4.94*	11.43	*5.90*	*2.44*	*0.02*
Imaginative involvement	7.23	*4.83*	9.62	*5.77*	*1.60*	*0.12*
Trance	2.6	*2.44*	4.14	*3.79*	*1.77*	*0.08*
Nature and language	5.5	*2.85*	7.19	*4.43*	*1.66*	*0.10*

Table 9. Means, SD's, t values and significance levels for self harm and no self harm groups on TAS subscales, for participants that reported a traumatic experience.

A series of independent samples t tests (Appendix J (iv)) were conducted to determine if the differences in the mean score on each factor were significantly different between the self harm and no self harm groups. The tests revealed that the only significant difference emerged on the intuition subscale, *t (38) = 2.44, p = 0.02,* with the self harm group having a higher score compared to the non self harm group. A large effect size was also

found, (d=0.7). The large effect size illustrates that there is a large difference between the self harm and non self harm groups on the intuition subscale.

Substance use and fantasy proneness

To investigate whether the variable of fantasy proneness had a relationship with substance use, an independent t test (Appendix J (v)) was conducted on the TAS. The means and standard deviations were calculated for the two groups. Participants with a problematic substance use as measured on the Substance Abuse Subtle Screening Inventory (SASSI) had a higher score for fantasy proneness, (M = *39.04*, SD = *22.98)* compared to participants with no problematic use, (M = *27.25*, SD = *20.14)*.

An independent t test revealed a significant difference between the problematic use group and non problematic use group, *t (106) = 2.84, p = 0.005*. The effect size was calculated and found to be a medium effect (d = 0.5). Therefore participants that have a problematic use of substances are more fantasy prone compared to participants that do not have a problematic level of substance use.

Subscales on fantasy proneness

To examine the relationship between substance use and fantasy proneness further the subscales of the TAS were examined. The table below shows the means and standard deviation for each subscale. The table illustrates that the problematic substance use group had a higher mean score on each of the subscales of the TAS, compared to the participants with no problematic use.

	No problematic substance use		Problematic substance use		t	p
	Mean	*SD*	Mean	*SD*		
Sensory absorption	6.71	*6.63*	9.76	*7.07*	*2.30*	*0.02*
Intuition	6.87	*4.66*	9.85	*5.50*	*3.01*	*0.003*
Imaginative involvement	6.29	*5.20*	9.22	*5.25*	*2.9*	*0.005*
Trance	2.08	*2.42*	3.91	*3.27*	*3.28*	*0.001*
Nature and language	4.71	*3.15*	6.95	*3.78*	*3.33*	*0.001*

Table 10. Means, SD's, t values and significance levels for subscales of TAS for substance use variable.

A series of independent sample t tests (Appendix J (iv)) were conducted to determine whether the differences in the mean score on each factor were significantly different between the non problematic substance use and problematic substance use groups.

All of the mean scores between the groups were significantly different, ($p < 0.05$). The largest difference occurred for the subscale of nature and language, $t\ (106) = 3.33$, $p = 0.001$, $d = 0.6$. Using Cohen's (1988) guidelines a medium effect size was found between the two groups on this subscale.

Fantasy proneness, substance use, and trauma

A further analysis was conducted on participants that had reported experiencing a trauma. This was conducted to examine whether being experiencing a trauma and being fantasy prone acts as a protective factor or a risk factor for the development of problematic substance use. Participants that had problematic substance use had a higher mean score for fantasy proneness, (M = *40.96*, SD = *22.60*) compared to participants that did not have a problematic level of use (M = *29.87*, SD = *21.96*). An independent t test (Appendix J (vii)) failed to show a significant difference between the two groups.

Subscales on fantasy proneness, substance use and trauma

To examine this relationship further an investigation was conducted to find whether there are specific factors within fantasy proneness that have a

relationship with substance use the subscales on the Tellegen Absorption Scale. The table below shows the means and standard deviation for each subscale.

	No problematic substance use		Problematic substance use		t	p
	Mean	*SD*	Mean	*SD*		
Sensory absorption	7.30	*7.33*	10.36	*6.92*	*1.77*	*0.08*
Intuition	7.91	*5.42*	10.21	*5.68*	*1.53*	*0.13*
Imaginative involvement	7.09	*5.34*	9.14	*5.21*	*1.38*	*0.17*
Trance	2.43	*2.52*	3.89	*3.46*	*1.74*	*0.08*
Nature and language	4.65	*3.01*	7.46	*3.68*	*2.94*	*0.005*

Table 11. Means, SD's, t values and significance level for subscales on the TAS for variable of substance use

A series of independent samples t tests (Appendix J (ix)) were conducted to determine if the differences in the mean score on each factor were significantly different between the non problematic substance use and problematic substance use groups, for participants that had reported a traumatic experience. The mean scores show that the problematic substance use group have a higher score on all of the subscales, compared to the no problematic use group. The table above shows the results of each test showing the t and significance level (p values).

The table above shows that when examining the results of participants that have reported experiencing a trauma, there is only a significant difference for the subscale of nature and language, $t\ (49) = 2.945,\ p = 0.005$. A large effect was found, (d=0.8). This illustrates that there is a large difference between the two groups on this subscale. No significant differences were found on the other subscales of the TAS.

Age of traumatic event and fantasy proneness

Age has been shown to be important factor in the development of fantasy proneness (Pekala et al, 2000) therefore the variable of trauma was investigated further by examining whether there was an effect in reported age

of a traumatic event on fantasy proneness. The table below shows the mean scores on the TAS for trauma age groups.

	Mean on TAS	*SD*	N
No trauma	29.04	*21.32*	54
Childhood trauma (0 -16)	42.33	*18.77*	21
Adult trauma (17 +)	34.36	*24.68*	33

Table 12. Means on TAS for trauma of different age groups.

A one way ANOVA (appendix J (viii)) was conducted on the three levels of trauma to examine whether the differences in the scores were significant. The results revealed a significant difference between the groups, $F\ (2,105) = 2.83,\ p = 0.03$. To investigate whether the difference was significant across all three groups a Dunnetts C post hoc test was conducted, which confirmed a significant difference between the no trauma and childhood trauma groups, with a significance level ($p<0.05$). Effect sizes were calculated, and revealed a medium effect between the no trauma and childhood trauma groups, ($d=0.6$). This illustrates that the difference between the two groups are unlikely to have occurred by chance. A small effect between the no trauma and adult trauma groups ($d= 0.2$), therefore there is a small difference between the groups. A moderate effect between the adult trauma and childhood trauma groups ($d=0.4$) was found. Therefore trauma experienced in childhood could lead to higher levels of dissociation compared to not experiencing trauma or trauma experienced as an adult.

To examine this difference further a series of one way ANOVA's (Appendix J (viii)) were conducted on the subscales of the TAS. The table below shows the mean scores for each of the subscales for each of the three groups of no traumatic events, childhood trauma and adult trauma.

	No trauma		Childhood trauma		Adult trauma		F	p
	Mean	*SD*	Mean	*SD*	Mean	*SD*		
Sensory absorption	7.51	*6.76*	10.3	*6.40*	8.33	*7.66*	1.16	*0.16*
Intuition	7.26	*4.79*	10.6	*5.31*	8.78	*5.7*	3.28	*0.02*
Imaginative involvement	6.89	*5.29*	10.5	*5.11*	7.55	*5.37*	3.53	*0.01*
Trance	2.55	*2.74*	4.05	*2.98*	3.12	*3.38*	1.92	*0.07*
Nature and language	5.42	*3.62*	7.48	*3.47*	5.55	*3.62*	2.66	*0.03*

Table 13. Means, SD's, F ratio and significance level on the subscales of the TAS for the trauma age variable.

The table above demonstrates that the group with the highest score for fantasy proneness on each of the subscales is the group that reported experiencing a traumatic event during childhood, followed by the group that reported experiencing traumatic events during adulthood, whilst those that had not reported experiencing any traumatic events had the lowest scores on each of the subscales on the TAS.

A series of one way ANOVA's were conducted to examine whether the differences between the ages of trauma groups were significant. The subscales of intuition revealed a significant effect for trauma age group, $F(2,103) = 3.28$, $p = 0.02$. A Dunnetts C post hoc test was conducted and revealed that there was a difference between the no trauma and childhood trauma groups, $p<0.05$. Effect sizes were calculated and a medium sized effect was found between the no trauma and childhood trauma groups ($d = 0.4$). This illustrates that there is a large difference between the no trauma and childhood trauma groups.

A significant difference on the subscale of imaginative involvement, $F(2, 104) = 3.28$, $p = 0.01$. A Dunnetts C post hoc test revealed a significant difference between the no trauma and childhood trauma groups, $p<0.05$. Effect sizes were calculated and a medium sized effect was found between the no trauma and childhood trauma groups, ($d = 0.4$).

The tests also revealed a significant difference on the subscale of nature and language, $F(2,104) = 2.66$, $p = 0.03$. A Dunnetts C post hoc test but did not reveal any significant differences between the groups ($p<0.05$). Effect sizes were calculated and a medium sized effect was found between

the no trauma and childhood trauma groups, d = 0.6. A medium effect was also found between the childhood and adult trauma groups, d=0.6.

These results illustrate that participants that reported experiencing childhood trauma scored higher for levels of dissociation and its subscales compared to other groups.

Fantasy proneness and frequency of trauma

To investigate whether there is a relationship between frequency of trauma and fantasy proneness a series of one way ANOVA's (Appendix J (ix)) were conducted on the TAS mean score and its subscales. The table below shows the mean scores and standard deviations for each group.

	0 experiences		1-4 experiences		5-10 experiences		>10 experiences		F	p
	Mean	*SD*	Mean	*SD*	Mean	SD	Mean	SD		
TAS mean	27.64	*24.12*	30.57	*16.55*	43.8	*28.26*	44	*18.02*	*3.13*	*0.029*
Sensory absorption	6.68	*7.37*	7.3	*5.65*	11.3	*8.56*	12.57	*5.32*	*3.15*	*0.028*
Intuition	7.06	*5.65*	7.89	*4.01*	11.16	*6.85*	9.43	*4.39*	*2.76*	*0.04*
Imaginative involvement	6.53	*5.62*	7.49	*4.69*	9.4	*6.17*	10.29	*5.82*	*1.75*	*0.16*
Trance	2.13	*2.61*	2.94	*2.89*	4	*4.71*	4.4	*2.57*	*2.23*	*0.08*
Nature and language	5	*3.87*	5.13	*2.85*	8.2	*4.03*	7.43	*3.46*	*4.90*	*0.003*

Table 14. Means, F ratio and significance value for frequency of traumatic experiences on the TAS and subscales.

The table above shows that as the number of traumatic experiences increases so does the mean score on the TAS and the subscales, apart from the intuition subscale. A series of one way ANOVAs were conducted to investigate whether the differences between the groups were significant. The tests revealed a significant difference for the overall TAS mean score, $F(3,103) = 3.13$, $p = 0.02$, the effect size was calculated and a medium effect (d = 0.29) was found. A Dunnetts C post hoc comparison was conducted to investigate the difference further. The test revealed that a significant difference on the mean score of the TAS occurred between the 5-10 traumatic experiences group with the 0, and 1-4 traumatic experiences groups, ($p < 0.05$). Therefore the level of fantasy proneness was significantly higher

amongst participants that reported experiencing 5-10 traumatic experiences compared to those that had reported less or no traumatic experiences.

A significant difference occurred on the sensory absorption, $F\ (3,103) = 3.15,\ p = 0.028$, intuition, $F\ (3,103) = 2.76,\ p = 0.04$. The largest significant difference occurred on the nature and language subscales $F\ (3,103) = 4.90,\ p = p<0.01$. A significant difference was not found on the imaginative involvement and the trance subscales.

Summary

The results supported this research hypothesis and found a significant relationship between substance use with fantasy proneness; and self harm with fantasy proneness. Participants with a history of self harm and substance use had higher scores for fantasy proneness compared to participants that had no history.

The results revealed that participants that reported an experience of a traumatic event were more likely to self harm if they scored higher on the subscale of intuition. The results also revealed that participants that reported an experience of a traumatic event were more likely to have a problematic use of substances if they had a high score on the subscale of nature and language.

The relationship with trauma and fantasy proneness was examined; results revealed that participants that experienced childhood trauma had a significantly higher score for fantasy proneness compared to participants that did not report experiencing childhood trauma. Moreover, the results also revealed that participants that had endured a greater number of traumatic experiences had a higher level of fantasy proneness compared to participants that experienced a low number or no experiences of trauma.

3.5 Self harm and dissociation

To investigate the fourth hypothesis that stated *participants with a history of self harm will have higher scores on dissociation compared to participants with no history of self harm.* Self harm was measured by self disclosure on the demographics sheet, and dissociation was measured by the mean score on the DES. Z scores were calculated, there were no results

more than three standard deviations from the mean, therefore outliers were not present, and consequently no further sets of results were eliminated. The data was not normally distributed, however Howell (2002) states that parametric tests are sufficiently robust to withstand the violation of this assumption. The variance of both groups was found to be similar therefore fulfilled a major assumptions required for parametric tests to be conducted.

Participants that reported a history of self harm had a higher mean score, (M= *2.97*, SD = *1.68*) on the DES compared to participants that reported they had never self harmed (M= *1.96*, SD =*1.68*).

An independent sample t test (Appendix K (i)) was conducted to measure whether this difference was significant. A significant difference between the two groups was revealed, *t (61) = 2.86, p = 0.003.* The effect size was also calculated (d= 0.6), a medium effect occurred (Cohen, 1988). This relates to the magnitude of difference between the two groups, based on the standard deviation of each group.

Subscales of the DES

To examine the relationship between self harm and dissociation further, a series of analyses were conducted investigating specific components of dissociation. A series of independent t tests (Appendix K (ii)) were conducted on the subscales of the DES and the DES – taxon. The table below shows the mean scores and the results of an independent t tests.

	Self harm history		No self harm		t	p	D
	Mean	*SD*	Mean	*SD*			
Amnesia	2.76	*1.90*	1.88	*1.73*	2.26	0.014	0.4
Depersonalization	2.18	*2.17*	1.10	*1.74*	2.51	0.007	0.5
Absorption	3.55	*1.97*	2.68	*2.12*	2.05	0.02	0.3
DES- taxon	2.57	*2.23*	1.36	*1.69*	3.06	0.001	0.6

Table 15. Mean DES scores, SD, t value, significance level and effect size on DES subscales for self harm and non self harm group

The scores revealed that participants with a history of self harm have a higher score on each of the DES subscales and the DES-taxon. The largest significant difference was found on the DES- taxon, which measures

pathological dissociation, *t (104) = 3.06, p =0.01.* A significant difference was also found on the subscale of depersonalization, *t (51) = 2.51, p<0.01*. The effect sizes for all of the subscales also revealed a medium effect size for each of the differences (Cohen, 1988), and a level that is appropriate for Counselling Psychology research (Haase, Waechter & Solomon, 1982).

Self harm, trauma and dissociation

A further analysis was carried out by creating a 2 x 2 factor design examining the effect of self harm and trauma on the dependent variable of dissociation. Trauma was measured by self report on the demographics sheet.

The group with the highest mean score were participants that did not report any traumatic events and had a history of self harm (M = *3.17*, SD = *1.57*). Whilst the lowest mean score was reported by the participants that reported no self harm and no traumatic events (M = *1.79*, SD = *1.63*). The table below shows the mean score and standard deviations of each of the four groups.

	Self harm		**No self harm**	
	Mean	***SD***	**Mean**	***SD***
Trauma	2.91	*1.83*	1.90	*1.55*
No Trauma	3.13	*1.57*	1.79	*1.63*

Table 16. Means, SD on DES for self harm and trauma groups.

A 2 x 2 (self harm x trauma) ANOVA (Appendix K (iii)) was performed on the DES scores to determine whether there was a significant difference between the four groups. The analysis revealed that there was a main effect for self harm *F (3,102) = 8.36, p =0.002, partial* η^2 *= 0.076*, with a medium effect size. This suggests that 7% of the overall variation in the DES scores was attributable to the variable of self harm. Therefore the self harm group had higher scores that could be attributed to dissociation.

There was no main effect for trauma and no interaction effect between self harm and trauma. The level of power for the trauma effect and trauma, self harm interaction effect was calculated. The results revealed that effect of

trauma had a partial η^2 <0.001 and power level of 0.054, therefore there would be a 5% chance of finding an effect if one truly existed.

Summary

The findings therefore support the hypothesis that participants that have a history of self harm have a higher level of dissociation compared to participants that have no history of self harm. The variable of self reported trauma for this sample did not prove to be a significant factor in influencing dissociation.

3.6 Problematic substance use, trauma and dissociation.

To investigate the fifth hypothesis, it was predicted that *participants presenting with a history of substance abuse will have a) higher level of PTSD symptoms, and b) higher scores on dissociation, compared to participants with no substance use or recreational use.* Substance use was measured against the total mean of the IES-R and DES scores.

Substance use and PTSD

Substance use was also measured against the scores on the Impact of Event Scale – Revised, which is a measure of PTSD symptoms. Participants that had a problematic level of substance use had a higher mean IES-R score (M = *41.69*, SD = *23.42*) compared to those that had non problematic use, (M = *20.22*, SD = *21.33*). An independent sample t-test (Appendix L (i)) was conducted to examine whether the difference was significant, again the data partially fulfilled the requirements of a parametric test and a significant difference was found, $t(98) = 4.81$, $p < 0.001$.

The table below shows the mean scores and standard deviations between those with and without a history of problematic substance use on the subscales of the IES-R. The differences between the groups were significant, on each subscale.

IES-R Total	Non problematic use		Problematic use		t	p
	Mean	*SD*	*Mean*	*SD*		
Avoidance	7.16	7.66	14.57	8.35	11.267	<0.001
Intrusions	8.55	8.90	16.15	9.41	13.771	<0.001
Hyper arousal	4.84	5.61	11.56	7.12	15.061	<0.001

Table 17. Means, SD, t value and significance level for the subscales of the IES-R against the variable of substance use.

A series of linear regressions (Appendix L (ii)) were conducted to examine what level of variance in the PTSD symptoms could be attributed to changes between the problematic and non problematic substance use groups.

The results revealed that changes in avoidance symptoms were significantly able to predict changes between problematic substance use and non problematic use. The model explained that 21% of the overall variance in hyper-arousal symptoms (*Adj. R^2, 21%*) which was found to significantly predict outcome, *F (1, 100) = 27.842*. While there are additional explanations accounting hyper-arousal symptoms could lead to the development of problematic substance use.

The model explained that 17% of the overall variance in hyper-arousal symptoms (*Adj. R^2, 17%*) which was found to significantly predict outcome, *F (1, 102) = 22.199*. Whilst the model explained that 14% of the overall variance in intrusion symptoms (Adj. R^2, 14%) which was found to significantly predict outcome, *F (1, 103) = 18.032.*

Substance use and dissociation

For the purpose of further analysis the mean scores on the Dissociative Experiences Scale will be compared across substance use groups. Within this section substance use will be measured by the scores on the SASSI, and dissociation will be measured by the score on the DES. From the scores collected from the SASSI substance use was split into three levels;

(i) problematic substance use,

(ii) recreational substance use,

(iii) no substance use.

The table below shows the mean DES scores for each of these groups.

	DES mean	*SD*	n
No Substance use	1.67	*1.18*	11
Recreational substance use	1.61	*1.73*	41
Problematic substance use	2.89	*1.64*	55

Table 18. Mean DES score, SD against three levels of substance abuse variable

The group with a history of problematic substance use had a higher mean score on the DES compared to the other two groups. A one way ANOVA (Appendix L (iii)) was performed on the DES scores and revealed an effect for substance use, $F\ (2,104) = 8.09,\ p > 0.001$. A Dunnett's C post hoc comparison was performed on the data and revealed that a significant difference occurred between the no substance use group with the problematic substance use group; and the recreational substance group with the problematic substance use group ($p<0.05$). Effect sizes were calculated and a large effect for both results were found ($d=0.7$). This illustrates a large difference in the standard deviations between the two groups.

Since there was no significant difference between the recreational use group and the no substance use the two were combined. This led to an equal number of participants in the newly formed groups.

The problematic substance use group had a higher mean score on the DES (M= *2.89*, SD = *1.64*) than the non problematic substance group (M= *1.62*, SD = *1.62*). An independent samples t test revealed that the difference between the two groups was significant, $t\ (105) = 4.04,\ p<0.001$, with the problematic substance use group having a higher level of dissociation. The effect size between the two groups was calculated, and a large effect size was found ($d = 0.7$), this illustrates a magnitude of difference between the two groups, decreasing the chances of making a Type II error.

Further analyses

The subscales of the DES and the DES- taxon provide a detailed breakdown of dissociation and were therefore analysed to establish whether

there are any differences on these scales for substance use. The table below shows the mean scores and standard deviations of each of groups on the different subscales. The table shows that for all of the subscales problematic substance use group had a higher mean score on all of the subscales, compared to the non problematic substance use group.

	Non problematic substance use		Problematic substance use		t	p	d
	Mean	*SD*	Mean	*SD*			
Amnesia	1.56	*1.71*	2.89	*1.64*	3.44	0.001	0.7
Depersonalization	0.89	*1.72*	1.94	*2.01*	2.90	0.005	0.5
Absorption	2.17	*1.91*	3.67	*2.02*	3.9	<0.001	0.7
DES- taxon	1.13	*1.62*	2.29	*2.06*	3.22	0.002	0.5

Table 19. Means, SD, t values, significance level and effect size for the variable of substance use against the DES subscales and DES-taxon.

A series of independent sample t tests (Appendix L (iv)) were conducted to determine if the differences in the mean score for each factor were significantly different between the problematic and non problematic substance using groups. The table above shows the t values and significance levels of each the test. The tests revealed a reliable difference between non problematic substance use and problematic substance use on all of the factors. The absorption subscale yielded the largest difference and had the largest t value, *t (69) = 2.99, p = 0.002, d=0.7.* All of the differences between the two groups yielded a medium/ large effect size.

Substance use, trauma and dissociation

To determine whether the factor of experiencing trauma had an influence on the variance in dissociation scores, for the variable of substance use further analyses were conducted. A further analysis was carried out by creating a 2 x 2 (Substance use – Trauma) factor design investigating the effect of self harm and trauma on the dependent variable of dissociation. Within this data the variable of trauma was measured by self report on the demographics sheet.

A 2 (substance use groups) x 2 (trauma groups) ANOVA (Appendix L (v)) was performed to examine the effect substance use and trauma had on

dissociation. The table of means below shows that group with the highest mean score for dissociation were the participants that experienced trauma and had a problematic level of substance use, (M = *2.92*, SD = *1.74*). Whilst the group with the lowest mean score on the DES were the group with no problematic substance use and no history of trauma (M = *1.59*, SD = *1.8*).

	Non problematic substance use		Problematic substance use	
	Mean	***SD***	**Mean**	***SD***
No Trauma	1.59	*1.80*	2.82	*1.57*
Trauma	1.65	*1.41*	2.92	*1.74*

Table 20. Means, SD on the DES for the variables of trauma and substance use.

The results from the two way ANOVA revealed that there was a main effect for substance use $F\ (3,102) = 15.068,\ p < 0.001,\ partial\ \eta^2 = 0.1$ which is a medium effect, which illustrates a considerable difference between the two groups. When trauma was collapsed a main effect for the variable was not found, furthermore there was no significant interaction effect between the two variables. Effect sizes and power were calculated for the two non significant effects. The calculations revealed a low effect for trauma (partial η^2 =0.001), and a power level at 0.05. For the interaction effect a low effect was found (partial η^2 <0.001), and a power level of 0.05.

Summary

The hypothesis that participants with a history of problematic substance use will have higher mean scores for dissociation has been supported. Participants that scored within the problematic substance use range on the SASSI had a higher mean score on the DES compared to those participants that had a recreational level of use or that had never used substances. Self reported trauma did not interact or was found to have an influence on dissociation within the data that was collected.

3.7 Subsidiary analyses: Offence type

A number of demographic details were collected during completion of the questionnaires. These details will be analysed further in the subsequent

analyses. The type of offences that participants were serving time in prison for were gained from the demographic details. The types of offences were formed into five distinct groups: small scale acquisitive offences (burglary), large scale acquisitive offences (supplying drugs, fraud) violent offences (grievous bodily harm, murder), sex offences (rape, sexual offences against children) and miscellaneous offences (driving offences).

Offence type and substance use

It was predicted that certain offences will be associated with a specific behaviour, for example particular offences will be associated with using substances.

A 5 (offence type) x 2 (problematic substance use) chi square test (χ^2) (Appendix M (i)) was conducted to discover whether there was a significant relationship between offence type and substance use. The table below shows the observed and expected frequencies for each group.

		Small Acquisitive offence	Large Acquisitive offence	Violent Offence	Sex Offence	Miscellaneous
No problematic use	Observed	4	21	13	10	5
	Expected	*9.3*	*12.3*	*16.2*	*10.3*	*4.9*
Problematic use	Observed	15	4	20	11	5
	Expected	*9.7*	*12.7*	*16.8*	*10.7*	*5.1*

Table 21. Observed and expected frequencies for substance use and offence type.

The table above shows that a greater number of participants convicted of small acquisitive crimes and violent offences had a problematic use of substances. A greater number of participants with no problematic use of substances had been convicted of large scale acquisitive crimes. There is no relationship between substance use and sex offences and miscellaneous offences.

The χ^2 value of 19.43 had an associated probability value of $p<0.001$, df = 4, showing that such an association is unlikely to have arisen as a result of sampling error. Cramer's V was found to be at 0.42, thus 18% of the variation in frequencies of offence type can be explained by substance use. It

can therefore be concluded that there is a significant association between the type of offence committed and substance use.

Offence type and trauma

The type of offence was investigated further by investigating whether there was an association between the type of offence and reported trauma. A 5 (offence type) x 3 (trauma age) χ^2 (Appendix M (ii)) was conducted to discover whether there was a significant relationship between offence type and trauma. Table 21 below shows the observed and expected frequencies for each group.

		Small acquisitive offence	Large acquisitive offence	Violent Offence	Sex Offence	Other
No trauma	**Observed**	9	13	17	11	4
	Expected	9.5	12.5	16.5	10.5	5
Childhood trauma (0-16 years)	**Observed**	7	2	5	7	0
	Expected	3.7	7.6	6.4	4.1	1.9
Adult trauma (17+)	**Observed**	3	10	11	3	6
	Expected	5.8	7.6	10.1	6.4	3.1

Table 22. Observed and expected frequencies for substance use and offence type.

The table above shows that a greater number of participants that reported experiencing trauma during childhood had been convicted of small acquisitive offences and sex offences. Whilst participants that been convicted of large acquisitive crimes and other offences experienced a greater number of traumatic experiences as an adult. An association between violent offending and age of trauma was not found.

The χ^2 value of 16.09 had an associated probability value of $p<0.04$, df = 8, showing that such an association is unlikely arisen as a result of sampling error. Cramer's V was found to be at 0.27, thus 7% of the variation in frequencies of offence type can be explained by trauma age. It can therefore be concluded that there is a significant association between the offence committed and age of trauma.

Chapter 4: Discussion

Overall, the study attempted to address what factors effected dissociation. A number of variables were used to investigate the relationship between trauma, self harm, substance use and dissociation. The hypotheses that were formulated in Chapter 1.9 were tested. The results revealed that all of the five hypotheses were supported. The findings within the study will be explored and related to the theoretical and research literature. The limitations of the findings and how future research could tackle some of the difficulties will also be explored. The implications of the results and how they can be utilized by Counselling Psychologists will be delineated.

4.1 Relationship between trauma and dissociation

The first hypothesis explored the role of experiencing trauma in childhood, on subsequent dissociation as an adult. The research hypothesis stated that *participants with a history of trauma experienced in childhood would have higher scores for dissociation compared to participants with no history and trauma experienced in adulthood.* When a one way ANOVA was conducted a significant difference was found between participants that reported experiencing a trauma in childhood, between participants that reported experiencing no trauma. A significant difference was not found between participants that reported experiencing trauma in adulthood compared with participants that had reported experiencing no trauma, or trauma in childhood, therefore the hypothesis was accepted.

Similar findings have been established by Watson and colleagues (2006) and Gast and colleagues (2001). They found that individuals that reported experiencing emotional and physical trauma during childhood displayed higher levels of dissociation compared to other types of trauma. These findings could be explained using the structural theory of dissociation of personality (van der Hart et al, 2005). The theory states that dissociation is used as a coping strategy in the face of enduring a traumatic event. If an individual regularly undergoes traumatic experiences parts of the personality become dissociated, and the memory of the trauma becomes fixed in one of the dissociated parts. These parts of the personality are not integrated causing difficulties in later life, where the individual that uses dissociation is

unable to cope with distressing situations. The possible consequences of dissociation are that amnesia and depersonalization experiences occur.

A significant difference was not found between the adult trauma group and the no trauma group, this could be indicative of an integrated personality not being disrupted. An individual may already possess strategies to cope with distressing and traumatic experiences during childhood, and therefore do not experience dissociation to a level that could create difficulties.

To determine whether there are differences between the three groups (no trauma, childhood trauma and adulthood trauma) for specific aspects of dissociation, the subscales of the DES were examined. A significant difference was found on the amnesia and absorption subscales. This has important implications in conceptualizing dissociation, and understanding how the use of dissociation in childhood has severe consequences in adulthood. These results illustrate that the development of amnesia and absorption symptoms could be predicted by experiencing traumatic events in childhood. It could be postulated that if an individual experiences traumatic events during childhood they compartmentalize the memories which lead to amnesia symptoms. Furthermore, in order to cope with enduring traumatic experiences they could easily become absorbed into phenomena.

Pathological dissociation was measured by using the DES- taxon. A significant difference between the groups was not found on this subscale. This result could indicate that trauma age is not an accurate predictor for the development of pathological dissociation.

Dissociation was also measured against current levels of PTSD symptoms (IES-R). A correlation was conducted between the two measures. Overall, a positive moderate relationship was found between the total mean scores of the two measures, *($r = +.520$, $p < 0.001$)*. The strongest correlation was found between the hyper-arousal subscale on the IES-R and absorption on the DES, *($r= +.553$, $p<0.001$)* accounting for 31% of the variance in the scores between the two subscales. Overall the strongest correlations were found between the absorption subscale of the DES and all of the subscales of the IES-R. This may indicate that an individual may use absorption as a coping strategy to cope with experiencing symptoms such as intrusions, hyper arousal and avoidance.

To tackle the limitation of inferring cause and effect by the correlation design of this part of the study, further analyses were conducted to measure the level of trauma symptoms indicated by a cut-off score on the IES-R against the DES. The results revealed a significant difference on the total DES score, as well as all of the subscales. The largest difference was found on the subscale of absorption. This findings support the large number of findings that there is a relationship between PTSD symptoms and dissociation (Ehlers & Clark 2000; Foa & Hearst – Ikeda 1996; Holmes, Grey & Young 2005).

Female samples in the past have predominately been used in studies to investigate the relationship between trauma and dissociation (Lipschitz et al, 1996; Zweig-Frank et al, 1994). These findings illustrate that the relationship between trauma and dissociation can also be found in a male forensic sample.

4.2 Relationship between offending and dissociation

The second hypothesis stated that *participants with a history of violent or sexual offending will have significantly higher levels of dissociation, compared to participants with other types of offences.* The hypothesis was partially supported with participants that reported being charged with a violent offence having a significantly higher score for dissociation compared to participants charged with a large acquisitive offence. A significant difference was found between the mean score of these two groups. When the subscales of the DES were examined significant differences were found on all of the subscales apart from the absorption subscale. A significant difference was not found between the score of the sex offence group with other groups.

There could be a number of possible reasons why a significant difference was not found in the sexual offence group as predicted. Firstly the scores in the miscellaneous group that comprised of offences that did not fit the other categories had the second highest score for dissociation, after the violent offence group; this could have confounded the results, and a significant difference between the groups being found. Secondly, it may be that dissociation played no role in the perpetration of sexual crimes in the sample that participated in the research; therefore, no significant difference

was found. However this data only compares the scores between the groups, and therefore it may be difficult to infer whether dissociation does play a role in sexual offending.

This has been the first study to date that has compared levels of dissociation among different types of offences. The current research literature has focused on violent offending and has discussed the possible role of dissociation on the perpetration of these types of crimes (Becker-Blease & Freyd, 2007; Cartwright, 2001; Lewis et al 1997). The high level of dissociation found in participants with a violent offence within this study could suggest that during the perpetration such a crime an individual is susceptible to being induced into a dissociative state.

Dissociation was explored further by examining the subscales of the DES. Significant differences were found on the subscales for amnesia and depersonalization between participants with violent offences and large scale acquisitive crimes. The high level of dissociative amnesia found in the violent offence group may account for findings by many researchers revealing that one third of prisoners have no memory of committing the offence that they were charged with (Kopelman, 1987; Schacter, 1986). This finding supports Moskowitz's (2004) hypothesis regarding the relationship between psychopathy and dissociation. It could be theorized that the perpetration of offending is induced by a dissociative state, triggered by a trauma related cue such as perceived threat. A depersonalization state could be stimulated leading an individual to be unable to empathize with their victim, thus they could commit a violent crime against them. The memory of the offence could become compartmentalized, leading to amnesia which will prevent re-experiencing of the distressing memory. This finding may have important implications for current prison interventions that do not take dissociation into account; therefore this behaviour needs to be addressed alongside anger management strategies, relapse prevention and victim empathy, if recidivism in an individual is to decrease.

An individual may experience the perpetration of an offence as a traumatic event in itself (Kruppa, Hickey & Hubbard, 1995; Pollock, 1999), and therefore if the memory becomes dissociated and not readily accessible, it may be exhibited by a number of post traumatic stress symptoms, such as

intrusions and hyper arousal. A number of studies have found that individuals that have committed violent offences display signs of PTSD known as '*Offence Related PTSD*' (Crisford et al, 2008; Pollock, 1999). This aspect of memory would need to be integrated for an individual to stop using dissociative coping strategies, which potentially could prevent future violent offending.

Higher levels of dissociation in violent offenders could be elaborated upon using the structural theory of dissociation by van der Hart and colleagues (2005), and Ryle's Multi Self States Model of Trauma (1997). It is postulated that certain violent offences could be performed whilst in the dissociative states of amnesia and depersonalization. Using Ryle's (1997) conceptualization of the Multiple Self States Model[6], an individual who has formed separate self states, which are reinforced by dissociation, will switch between different states dependent on their personal cues of trauma. Examples of self states experienced by individuals that endured traumatic experiences during childhood include victim- bully and abuser- abused. Ryle uses the term Reciprocal Role Procedures (RRP's) to describe how these states are enacted. RRP's describe how an individual may interact with others in their environment. These consist of a role for self, role for other and a role for the relationship. These roles develop from childhood memories. Ryle states that when one pole of the reciprocal role is enacted, in an interpersonal situation the other person being related to feels pressure to enact the opposite pole.

In relation to trauma he states that an individual could re-enact states experienced in the past, for example experiences of being abused during childhood could lead to abusing others, or abusing the self. In this way it is proposed that participants with a high level of dissociation could have felt threatened, and re-enacted a particular form of trauma they experienced. In relation to violence, participants with a history of violent behaviour as an adult may have endured similar experiences during childhood. Thus, when threat is perceived they enter a state where they either submit to others, or in the case of those who have committed aggressive acts, they enact the opposite pole, and become the aggressor rather than the victim.

[6] Based on Object Relations and Cognitive concepts

Levels of pathological dissociation were also assessed in this study. The results revealed similar levels to those found in prison samples in America and Australia (Carrion & Steiner, 2000; Friedrich et al., 2001; Simoneti, Scott, & Murphy, 2000; Walker, 2002). It was revealed that 28% of the sample displayed levels of pathological dissociation (indicated by a total score of more than 30 on the DES, Moskowitz, 2004). This may illustrate that a large proportion of the prison population are experiencing dissociative symptoms and would benefit from intervention and support. This finding may also support the statement provided by Carlson and Putnam (1993) and Steinberg (1995) that a diagnosis of Dissociative Identity Disorder may be missed in men, as they are referred to the Criminal Justice System before detection of dissociation, whereas women are more likely in receiving support and a diagnosis.

4.3 Relationship between absorption, self harm and problematic substance use

The third hypothesis in this study investigated whether there is a relationship for fantasy proneness with self harm and problematic substance use. It was predicted that: *there will be a significant difference between participants with a history of a) self harm and b) problematic substance use on levels of fantasy proneness.* This was investigated by using the Tellegen Absorption Scale (TAS). This two tailed hypothesis was supported, participants with a history of problematic substance use and self harm had a higher level of fantasy proneness.

Self harm

When examining the factor of self harm, participants with a history were found to have a significantly higher score on the TAS, and its subscales compared to those that had reported to have self harmed. The largest difference was found on the trance subscale. The trance subscale was characterized by 'stepping out of oneself', 'imagining that the body is doubly heavy', and that 'the mind envelops the world'. This result could be indicative of the relationship between the frequency of depersonalization symptoms and self harm behaviour, thus providing support for the anti-dissociation model of

self harm (Klonsky, 2007). This will not be explored in great detail in this section, as no published studies have stated that the trance subscale is an accurate predictor of depersonalization experiences; therefore it is difficult to make such inferences. This study did however find that 47% of the variance in the trance subscale scores could be attributed to depersonalization on the DES.

A further analysis was conducted to examine whether any of the subscales for absorption would predict self harm for participants that reported experiencing a traumatic event. The results revealed that the only significant difference was found on the intuition subscale. The intuition subscale comprised of questions regarding the frequency of feeling the 'presence of another person', and 'having vivid recollections'. These experiences are very similar to depersonalization symptoms, and therefore could indicate that these experiences could play a role in episodes of self harm. The findings of a significant difference on this measure may illustrate that individuals who use self harm as a coping strategy for dealing with difficult experiences get easily absorbed into different phenomena.

Problematic substance use

The findings revealed a similar relationship between problematic substance use and fantasy proneness, to that found for self harm. A significant difference was found on all of the subscales on the TAS. The largest difference between the scores was found on the nature and language subscale. Questions that were asked on this subscale included 'being moved by sunset', 'language' and 'getting delight in small things'. It is postulated that these findings regarding getting absorbed into different experiences may be representative of dissociation being used a coping strategy to escape from aversive stimuli (Nijenhaus et al, 2004). By getting easily absorbed into such experiences the individual could prevent themselves from reliving traumatic memories, or experiences that are perceived to be traumatic. This process would reinforce the non integration of personality. The consequence of using certain substances such as heroin which has a numbing effect reinforces these experiences. Therefore an individual prevents reliving their traumatic

experiences. The author theorizes that the use of substances acts in a similar way to dissociation and inhibits the integration of the personality.

When investigating the results for individuals that reported a history of trauma, a significant difference was found on the nature and language subscale, between participants who had developed a problematic level of substance use compared to those who had not. This could suggest that getting easily absorbed in nature and language acts as a risk factor for developing problematic substance use following the experience of a traumatic event.

Trauma and absorption

A number of studies including twin studies have indicated that fantasy proneness has a genetic loading (Bergeman et al, 1993; Jang et al 1998; Tellegen et al, 1988). However other studies have found that early dysfunction and trauma can encourage the trait of fantasy proneness to develop (Lawrence et al, 1995). By using this understanding it could be conceptualized that individuals that are genetically fantasy prone and experience trauma during childhood are likely to use substances problematically and engage in self harm behaviour, compared to those that are not genetically fantasy prone.

The finding that higher levels of absorption were significantly higher in participants that had reported experiencing five or more traumatic events could indicate that individuals are more likely to get absorbed into experiences due to the frequency of experiencing traumatic events. By using such responses an individual may be able to make the event less painful if they get absorbed, and get their mind away from enduring negative and horrific incidents.

4.4 Relationship between self harm and dissociation

The fourth hypothesis examined the relationship between self harm and dissociation. The hypothesis predicted that *participants with a history of self harm would have higher levels of dissociation compared to participants with no history of self harm,* this hypothesis was supported.

When the mean score on the DES for the self harm group was examined, the score revealed a level of pathological dissociation as described

by Moskowitz (2004). The largest difference between the self harm group and non self harm group was found on the DES- Taxon, which measures pathological dissociation. This finding supports other studies (Briere & Gil, 1998; Brodsky et al, 1995; Kiesiel & Lyons, 2001; Nijman et al, 1999) that have found higher levels of dissociation in populations that self harm compared to those that have no history of self harm. Whilst the majority of these findings have predominately used female samples (Zweig-Frank et al, 1994), the current finding illustrates that dissociation may also play a significant role in male self harming behaviour, and is not unique to female self harm.

When examining the results further by interpreting the DES subscales scores, the largest difference between the two groups was found on the depersonalization subscale. This finding provides support for the anti dissociation model proposed by Klonsky (2007). Participants with a higher level of depersonalization symptoms (out of body experiences) may inflict harm on themselves to feel real again, and so impede depersonalization episodes. Gunderson (1984) proposed that individuals could 'feel real again' by the sight of blood following the act of self harm. It could therefore be speculated that the process of self harm fulfils the function of feeling real, following out of body depersonalization experiences.

Based on the findings regarding the relationship between self harm and dissociation, particularly for the factor of depersonalization, the author presents a model of a conceptualization of self harm (Figure 3 below), by adapting Hunter et al's (2003) cognitive model of depersonalization.

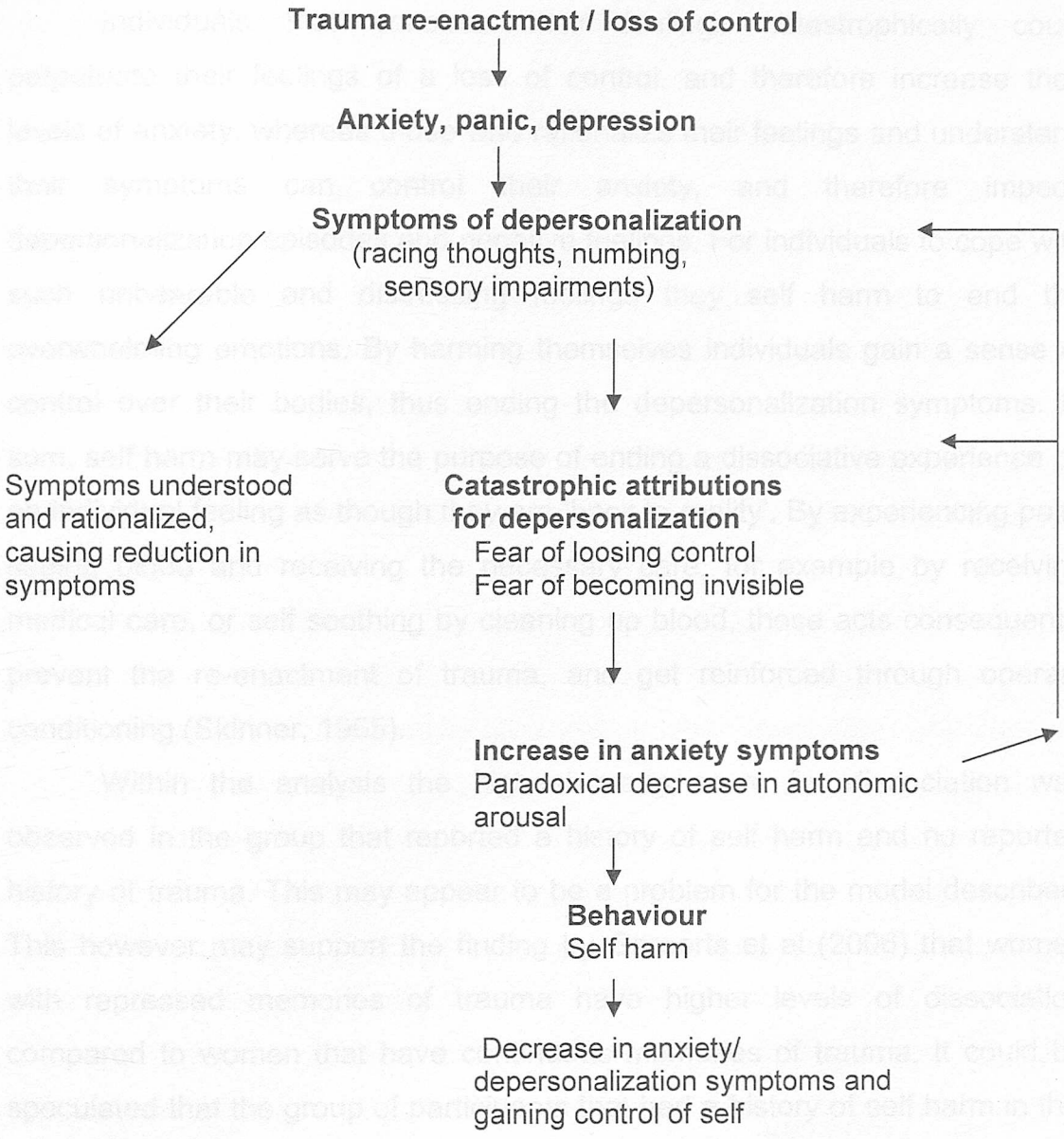

Figure 3. Adapted cognitive model of depersonalization leading to self harm

Figure 3. is an adaptation to the model provided by Hunter et al (2003). The model proposes that feelings of anxiety, panic, depression, and stress could be triggered following a traumatic situation where an individual could perceive a re-enactment of trauma. These feelings could lead to the onset of depersonalization symptoms. Such symptoms include racing thoughts, emotional and physiological numbing experiences, being in a dream-like state, difficulty in processing information and sensory impairment. The depersonalization symptoms could either be interpreted catastrophically, or understood and rationalized, thus causing a reduction in depersonalization experiences.

Individuals that construe their feelings catastrophically could perpetuate their feelings of a loss of control, and therefore increase their levels of anxiety, whereas those who rationalize their feelings and understand their symptoms can control their anxiety, and therefore impede depersonalization episodes and negative feelings. For individuals to cope with such unbearable and distressing feelings they self harm to end the overwhelming emotions. By harming themselves individuals gain a sense of control over their bodies, thus ending the depersonalization symptoms. In sum, self harm may serve the purpose of ending a dissociative experience by an individual feeling as though they are 'back to reality'. By experiencing pain, seeing blood and receiving the necessary care, for example by receiving medical care, or self soothing by cleaning up blood, these acts consequently prevent the re-enactment of trauma, and get reinforced through operant conditioning (Skinner, 1965).

Within the analysis the highest mean score for dissociation was observed in the group that reported a history of self harm and no reported history of trauma. This may appear to be a problem for the model described. This however may support the finding by Geraerts et al (2006) that women with repressed memories of trauma have higher levels of dissociation compared to women that have continuous memories of trauma. It could be speculated that the group of participants that had a history of self harm in this study and reported no traumatic events had repressed these memories and therefore self harm was manifested amongst their difficulties to regulate the dissociative symptoms that they were experiencing.

Many different theories that have been proposed to understand self harm (Allen, 1995; Liebling et al, 2005; Suyemoto, 1998). By understanding the interaction between dissociation and self harm this study has attempted to address one explanation for such behaviour. This finding may also challenge other theories such as the Interpersonal Influence theory (Klonsky, 2007) which suggests that self harm is used to manipulate and influence others, and such behaviour could be perceived to control others. Findings in this study illustrates that self harm may be used primarily to control the self, but the consequences of such behaviour could serve to control others too.

4.5 Relationship between problematic substance use, PTSD and dissociation.

The final hypothesis examined the relationship between levels of problematic substance abuse and dissociation. It was predicted that *participants presenting with a history of substance abuse will have a) a greater number of PTSD symptoms, and b) higher scores on dissociation, compared to participants with no substance use or recreational use only.* Both predictions were supported. The first part of hypothesis will be presented examining the relationship between trauma and problematic substance use, followed by the relationship between problematic substance use and dissociation.

When comparing the prevalence rates of substance use in prison against other studies (ONS, 1999) a lower rate of substance use was found. In this study 51% of the sample displayed a problematic level of substance use compared to 80% in the ONS study. This difference may be due to diverse tools being used between the studies, as this research may have used stringent criteria to define problematic substance use. The rate found in this study is however similar to that found in a Meta analysis of studies in prison populations (Fazel et al, 2006).

Problematic substance use and trauma

The results revealed a relationship between problematic substance use, and the frequency of symptoms for PTSD; namely hyper-arousal, intrusions and avoidance. Based on the participants reporting of the frequency of trauma related symptoms on the IES-R, the mean score for the problematic substance use group indicates a level that could constitute a diagnosis of PTSD (Creamer et al, 2003). These findings were investigated further; the analysis revealed 64% of the problematic substance use group reported a level of symptoms that could diagnose PTSD. The prevalence of PTSD in this sample is much greater compared to the prevalence found by Reynolds et al (2005) in a British inpatient detoxification ward, which reported that 38.5% of their sample had a current diagnosis of PTSD. The difference in rates of trauma in the two samples could be indicative of the level of psychopathology

and inability to regulate their emotions due to an elevated rate of PTSD in the prison sample used.

A series of linear regressions were conducted to examine whether changes in PTSD symptoms of avoidance, intrusions and hyper arousal could be predicted by problematic substance use. The results revealed that 21% of the overall variance for hyper arousal symptoms could be attributed to problematic substance use. Whilst it is acknowledged that this does not illustrate a causal relationship, it conveys the important relationship between post traumatic stress symptoms and the possible ameliorative effects of substances. When relating to the self medication hypothesis (Khantzian, 1985) the use of substances could have the effect of blocking out, numbing and avoiding a number of PTSD symptoms. Incarceration in prison therefore may increase such symptoms due to the controlled environment of a prison, where individuals may not have access to using substances to block out and suppress such symptoms.

By using substances an individual may be able to suppress these intrusions. Using knowledge from behaviour theory, in particular operant conditioning (Skinner, 1965), the use of substances becomes reinforced, as it suppresses intrusions of a traumatic experience, thus alleviating distress.

A particular strength of the study is that it employed a heterogeneous sample. Previous studies have been solely based on treatment seeking populations (Reynolds et al, 2005). The tool used in this study examined the level of problematic substance use by measuring the negative consequences of the use of substances, rather than a subjective measure of problematic use. The measure therefore classes individuals with a problematic level of substance use, even if they that may not perceive their substance misuse as problematic, and may not be motivated to change their behaviour. The high level of symptoms of trauma within the problematic substance use group could indicate a treatment need for individuals that may be incarcerated for substance related offences.

Substance use and dissociation

The results revealed that participants with a history of problematic substance use had a higher level of dissociation compared to participants with

no history of substance use, or those participants that had used substances recreationally.

This is one of the first studies to date that has examined the relationship between substance use and dissociation. The results revealed a large effect for the relationship between dissociation and problematic substance use. These results therefore suggest that dissociation could be implicated in a relationship with problematic substance use. When the results were analysed further by examining the subscales, the largest difference was found on the absorption subscale of the DES. This subscale measures losing contact with ones surroundings. Questions that are asked within this subscale include 'staring into space and being unaware of time', and 'being unsure of whether events occurred in a dream or that they were real'. Whilst this particular subscale is characteristic of non pathological dissociation (Waller et al, 1996), this result may suggest that such experiences may serve to perpetuate dissociation as an individual may get easily absorbed into experiences preventing integration of memories.

Interestingly, when trauma was included in the analysis a significant relationship was not found between substance use and dissociation. This result illustrates that within this sample the relationship between trauma and dissociation is not a linear, and supports findings by other researchers (Merckelbach & Muris, 2001; Tilman, Nash & Lerner, 1994). A power calculation was conducted on G power (Faul, 2006) and revealed that 4130 participants would be required to achieve a power level of 0.8. If a future study used such a large sample the likelihood of making a Type II error is extremely high. It could therefore be inferred that there is no relationship between self reported trauma and dissociation.

Using the structural theory of dissociation (van der Hart et al, 1996) and the self medication hypothesis (Khantzian, 1985) the findings within this study could be conceptualized in the following manner. An individual who experiences dissociative symptoms, such as amnesia and depersonalization may feel distressed and overwhelmed. Action systems allow for the detachment from a traumatic experience (Panksepp 1998). When they are not integrated a number of difficulties for an individual could ensue. These include an inability to regulate affect and impulsive behaviour. It is therefore

hypothesized that in order to regulate affect, individuals may use substances that may ameliorate the effects of not only symptoms of trauma, such as intrusions in the form of flashbacks, but also dissociative symptoms, where they may feel disorientated. Therefore such a state could be stopped by using substances.

The higher level of dissociative symptoms within the problematic substance use group would be consistent with this group experiencing traumatic events. This result could be indicative of the problematic substance use group compartmentalizing their traumatic experiences, therefore displaying significantly higher levels of dissociative amnesia compared to the non problematic substance use group. This high level of dissociation could indicate that the memory of trauma is not integrated but compartmentalized; therefore individuals may experience flashbacks without any known cues, as they have little insight for such behaviour, which could lead to the development of phobias for everyday experiences that trigger trauma cues.

Based on the findings with regard to the relationship between substance use and dissociation, the use of substances to a problematic level can be interpreted as a form of a dissociative response, since it serves to prevent the processing and integration of traumatic events. This would be consistent with the finding that participants with a problematic level of substance use had significantly higher levels of avoidance symptoms for PTSD compared to participants with no problematic use of substances. This could support the theory provided by Miranda and colleagues (2002) who stated that the use of substances may prevent the integration of traumatic and aversive memories, as a result of avoidance strategies being used.

The findings for this hypothesis illustrate the complexity of working with individuals in prison that present with a history of problematic substance misuse. They may experience a number of difficulties that stem from their early attachments. In order to alleviate the distressing emotions, they may use substances despite the further negative consequences that may ensue, such as criminal behaviour, relationship problems and physical/ psychological difficulties.

4.6 Relationship between offending, trauma and problematic substance use

Problematic substance use and offending

Additional analyses were conducted that examined whether there is an association between specific types of offences and problematic substance abuse. A significant association was found between substance use with acquisitive crimes and violent crimes. This could be explained in a number of ways. Participants committing acquisitive crimes such as burglary and theft may have done so in order to gain money to fund their problematic substance use. Furthermore they may have also become disinhibited and therefore had the confidence to commit such crimes. The significant association between problematic substance use and violent offending also warrants further research. An explanation for this association may be that at the time of committing the violent offence an individual was under the influence of drugs or alcohol, therefore they have less control of their behaviour.

This finding illustrates the long term difficulties that could be caused by problematic substance use, and that interventions need to be appropriate and be informed by all of these difficulties rather than just the offending. Therefore it would be important to not only intervene with offending and providing skills in preventing such behaviour, but also delving into the causes of substance use and the functions for such behaviour, and introducing alternative strategies to cope.

Trauma and offending

Chi square tests were also conducted to investigate whether there is an association between types of trauma, i.e. childhood, adulthood or no trauma with offence category. The results revealed that there was a significant association between reporting experiencing trauma in childhood and being charged with a sexual offence, or small scale acquisitive crimes. This finding regarding the association between sexual offending and experiencing childhood trauma may be consistent with the work of Ryle (1997). By understanding reciprocal role procedures it could be theorized that individuals that commit sexual crimes do so when they perceive they are under threat, therefore they enact a role such as abuser, rather than that experienced

during childhood i.e. the abused. However without further investigation it is very difficult to conclude whether such processes may have played a role in offending.

4.7 Limitations and future research

The limitations of findings will now be described within this chapter, alongside how studies in the future may overcome some of these limitations. Further research questions will be presented for future studies that would expand upon these findings.

Trauma and Dissociation

PTSD symptoms and dissociation were correlated together, it is important to be mindful that such designs do not measure cause and effect, and there could be a number of other factors that could be influencing this result.

Data regarding the type of trauma participants had experienced was not collected. Therefore it is difficult to understand what they found traumatic; this could be an array of experiences, for example being imprisoned, enduring abuse during childhood, or being involved in a car accident. The definition issued to participants was quite broad and vague; therefore it is difficult to infer what subjective experience could constitute a traumatic experience, and what effect this could have on dissociation. It is therefore probable that participants did not classify emotional abuse as a traumatic event, as it could be very covert. However they may display a high level of dissociation, as it has been found in other studies (Lipschitz, 1999), therefore this factor could have confounded these results. Future studies could examine specific types of abuse by using tools such as the Childhood Trauma Questionnaire (Bernstein & Fink, 1998). Alternatively structured clinical tools such as the Structured Clinical Interview for the DSM IV (Blake et al, 1995) could be used.

A possible confound to the results regarding the reporting of trauma may have been that participants were embarrassed to state that they had endured a traumatic event, and therefore stated that they had not.

The author chose not to ask about participants experiences of traumatic events, as it was predicted that by asking such questions trauma

could have been under reported. Participants may have never disclosed to anyone that they had experienced trauma such as childhood sexual abuse before. Therefore the author decided that it would have been unethical to ask about such experiences, without an opportunity to elaborate or discuss it within the frame of a safe therapeutic relationship.

Within the demographics sheet, questions about multiple traumas were not asked. Research has shown that enduring a childhood trauma, followed by a trauma in adulthood can act as a mediating factor for self harm (Brodksy et al, 2001). Whilst this study did find a higher level of dissociation and self reported incidence of childhood trauma in participants that did self harm, there was not an option for participants to state that they had also experienced trauma in adulthood as well as in childhood.

Future research would therefore benefit from investigating the types of traumatic experiences prisoners have endured. In order to get an accurate understanding of the level of trauma experienced alternative methods, such as semi structured interviews could also be used. Otherwise, data could be gathered by psychologists working with prisoners regarding the trauma that is discussed within therapy. This would allow research to be conducted within the boundaries of a safe therapeutic relationship, where participants have the opportunity to speak about their trauma openly, at their own pace.

The tool that was used to measure dissociation in this study was the Dissociative Experiences Scale. This measure has been found to be reliable and valid in a number of studies. However Wright and Loftus (1999) have noted that within non clinical populations the results are skewed and a floor effect can be observed. To tackle this problem they asked a sample of university students to complete the DES by asking about the frequency of dissociative experiences in the way that participants in this study were asked, they were also asked to complete the DES by making comparisons against other people, so they were asked 'much less than others', 'the same as others' or 'much more than others'. Wright and Loftuses research revealed the results were not skewed when asking participants to compare their level of dissociative experiences to others. At the same time they consistently reported a low score for dissociation. This research illustrates that there are weaknesses in the measure that was used in this study. The skewed results

in the DES could have affected the data in some of the analyses; therefore future studies could use both of the methods of measuring dissociation. However Wright and Loftus used a non clinical sample therefore it would be useful to investigate whether similar patterns occur in a clinical sample.

This study used a quantitative approach however future studies could use semi structured interviews and a qualitative approach to understand an individuals' subjective experience of dissociation. Furthermore research would reveal whether prisoners find such phenomena strange, or helpful in an environment that could be traumatizing, as well as addressing whether there are any negative or positive outcomes for using such a strategy.

Despite the negative consequences of dissociation it would be useful to inspect whether there are levels that are 'healthy' for an individual, and consequently make their experience of prison more bearable. Consequently, they may be able to escape from constantly being reminded of living in such a harsh environment. Future studies could examine the relationship of how a prisoner is coping, by using a measure such as the 'Measuring the Quality of Prison Life (MQPL)' (Liebling & Arnold, 2002) and examining whether there is a relationship between that measure and scores for dissociation.

Studies in the future would also benefit from investigating the differences between individuals that have experienced traumatic experiences and display high levels of dissociation with no history of imprisonment, and those that have been imprisoned and committed crimes. This could create an expansion in knowledge regarding the development of criminal behaviour, by understanding what factors protect an individual from entering a criminal lifestyle, following a traumatic event and what factors may pose a risk.

Offending

The results revealed a significant difference on levels of dissociation between participants that had committed large scale acquisitive crimes and violent crimes. Due to a small number of participants within each group it is difficult to make firm conclusions that there are significant differences between other offences, for example sexual offending. Future research would benefit from using larger sample sizes to examine the differences in dissociation between these groups. To find whether dissociation does play a part in sexual

offending it may be important to investigate dissociation levels at the time of perpetration the crime as a limitation of this study is that this data was not captured therefore it is difficult to state cause and effect.

Whilst a relationship between violent offending and dissociation has been inferred, further analysis is required. This study measured dissociative experiences in an individual's life, and did not explore whether dissociation was induced at the time of committing their index offence. Therefore it makes it difficult to conclude that specific types of dissociative symptoms for example depersonalization, occurred at the time of perpetration of the offence, and played a role in committing a violent act. Again, this limitation could be overcome by using interviewing methods to gather information about the subjective experiences of prisoners, before and during the perpetration of their crimes, whilst attempting to investigate whether dissociative mechanisms were triggered.

The findings that have been presented and related to theoretical understandings would benefit from being elaborated upon in future research. Further analyses could usefully benefit from the application of Cognitive Analytic concepts to violence in a prison population, which could lead to appropriate interventions for violent behaviour. As a result therapist and client could understand the choice of victim in relation to the prisoners' personality structure and Reciprocal Role Procedures being enacted. Consequently through insight an individual may become aware when they are enacting such roles and therefore prevent future offending. To elaborate on the work of Pollock and Belshaw (1998) using two case studies based on Cognitive Analytic Therapy with an offender population, studies should investigate whether this type of therapy is efficacious in working with offending. It would therefore be useful to measure whether levels of dissociation decrease following this type of intervention, as current interventions in prison do not address this phenomenon.

Fantasy proneness

Whilst significant differences were found for the variables of self harm and problematic substance use it is difficult to conclude that these traits are

the cause of self harm and substance use, as they could have developed following such behaviour.

Within the study the Tellegen Absorption Scale was used to measure fantasy proneness. This only measured one aspect of fantasy proneness and does not measure other characteristics such as openness to experience (Bergeman et al 1993) or hypnotic suggestibility (Hilgard, 1965). This tool was used as there are no current measures that encapsulate all aspects of fantasy proneness. To investigate other aspects alternative measures such as the Creative Experiences Scale (Merckelbach, Horselenberg & Muris 2001) could be used in future research. This measure examines developmental antecedents of fantasy proneness, and involvement in fantasy and daydreaming.

Self harm

There are a number of limitations within this study for the variable of self harm. Firstly, as noted in Chapter 1.6 the definitions between self harm vary across research studies. This study focused on the non-lethal aspects of self harm, and did not address the different methods that are used, in an attempt to prevent having too many variables.

Participants were asked whether they had ever self harmed, for example by cutting or taking an overdose. Future studies could investigate further the relationship between self harm and dissociation. Using measures such as the Self Injury Questionnaire (Santa-Mina et al, 2006) that investigate the function and frequency of self harm, a detailed understanding of the role of dissociation in self harming behaviour could be achieved. It would also be informative to investigate whether there are particular functions of different methods of self harm, for example self cutting may be used to curtail dissociation, whilst other methods such as burning may serve other functions and have other meanings attached to them.

Frequency of self harm was also not captured. It would therefore be useful to examine whether there is a significant difference between individuals that repetitively self harm compared to those that have self harmed a small number of times. This would have important implications for managing the

high risk population that repetitively self harm and are at an increased risk of suicide, if self harm is not committed in a controlled manner (Favazza, 1998).

The model presented in Figure 3 was conceptualized based upon the results from this study and the authors' clinical experience. It will be important to empirically test in future research, so that appropriate interventions can be made, based on the model. By using cognitive behavioural interventions such as self monitoring and psycho-education to understand depersonalization symptoms, a reduction in self harming behaviour could be achieved. The author recognizes the limitations of the proposed model; firstly it may only address self harm behaviour such as cutting but not other forms for example hanging and poisoning. This model therefore only attended to self harm that is conducted as a form of relief for intolerable emotions, where an individuals attempts to end a depersonalization episode.

Substance use

With respect to the first prediction in the hypothesis a large proportion of participants reported a high level of PTSD symptoms. This particular finding would benefit from further analysis. Firstly, it would be valuable to examine which specific types of trauma are more likely to predict development of problematic substance use compared to experiencing other types of trauma. For example, a number of studies have found a relationship between 'War related PTSD' and subsequent alcohol dependence (Bremner et al, 1996; Kulka et al, 1990). A particular limitation of this study is that it can not be concluded that substance use occurred after experiencing trauma, and that they are used to ameliorate the effects of intrusions and other symptoms of PTSD. This was addressed by Reynolds et al (2005), who stated that during substance induced states individuals were susceptible to experiencing trauma, however this only accounted for 36% of the PTSD group and therefore the results were not conclusive. To fully support the self medication hypothesis (Khantzian, 1985), the chronological order of trauma and substance use could benefit from being investigated in future studies.

The psychometric instrument that was used in this study to measure substance use was the SASSI -3 (Miller et al, 1997). This particular measure has been found to be reliable. Through the use of subtle items deception is

attempted to be controlled, in particular offenders who may try to state they do not have problems regarding substance abuse are targeted. However, a number of studies have found that this measure may not reliably control for this variable (Richards & Pai, 2003). Therefore if this finding holds true for the current research, the number of participants reporting a problematic use of substances could be under reported.

Illicit substances have a range of effects, for example, Heroin and Alcohol has depressive effects, whilst Crack Cocaine has stimulating effects (South, 2007). Future studies would benefit from inspecting whether there is a relationship between specific types of substances and dissociation and PTSD symptoms. If such a relationship was found to exist this could have an effect for conceptualizing the self medication hypothesis (Khantzian, 1985). For example the use of stimulants may have the effect of numbing intrusive symptoms of PTSD. However, in the authors experience prisoners with a history of problematic substance use a range of illicit substances within the same time period, therefore it would be difficult to make firm inferences and control such a variable.

Findings in a female American prison sample found that that poly substance use severity causes greater psychological and social difficulties (Salgado, Quinlan & Zlotnick, 2007). Therefore another limitation of this study was that the severity of substance use was not investigated. It would therefore be useful for future studies to investigate whether such a difference occurs within a male prison population.

When a 2 x 2 factor design (substance use and trauma) was employed in the study to measure the variables of trauma in hypotheses 4 and 5, a significant effect for trauma was not found. Power analyses were conducted and revealed a low level of power (0.054) in these result. The test revealed that 4365 and 4130 participants would be required respectively, to achieve a power level of 0.8. If this number of participants took part then the chances of making a Type II error would be extremely high.

Additional analyses

The results that have been described regarding the relationship between problematic substance use and offending are subject to a number of

limitations, and would benefit from further research being conducted in this area. It is difficult to conclude that offending occurred at the time of being intoxicated with substances without further investigations. Future research could examine this area further, which would be beneficial in conceptualizing offending behaviour by examining what occurred at the time of the perpetration of the offence, what experiences the prisoner endured at the time, whether dissociation played a part, and whether they were substance related. This particular area is a very difficult topic to investigate due to the subjective nature and confounding variables such as shame associated with committing an offence, impacting on what an individual may disclose. Therefore perpetration of an offence may be minimized, or blamed on substance use, which may be more acceptable for society and the individual to accept.

Sample limitations

A small number of prisoners did not agree to take part after finding out that the research involved traumatic events; therefore the levels of dissociation in individuals that found thinking about traumatic events particularly aversive were not captured.

The majority of the participants (71%) had been sentenced for their crimes at the time of participating in the research. The author made the decision that it would not be ethical to ask prisoners to participate in research when they had just come into prison and were settling into the environment; therefore participants were approached on specific wings. By excluding this particular population the level of dissociation being used at the time of reception into prison was not captured could have made the sample less representative of the prison population.

A cross sectional design was employed in this study, future research could use a longitudinal study to examine whether dissociation changes over time. It therefore would be useful to investigate whether dissociation levels are higher at the time of coming into prison or after a long time of being in prison. Depending on the time that dissociation levels are elevated to a level that causes distress, individuals that would benefit from intervention for difficulties regarding dissociation would be revealed.

Participants may not have answered the questions according to their experiences and underreported them, in fear of being labelled "mad" due to the peculiarity of certain questions on some of the measures. For example the questions on the Tellegen Absorption Scale asked about experiences such as sensing another person before seeing them, or experiencing things as a child. This effect may have occurred when the measures were completed with a number of other participants in the same room. Whilst they were asked not to share how they answered they may have been fearful about being perceived by others as strange if they answered questions in a particular way when they may have spoken to each other following the completion of the measures.

4.8 Implications for Counselling Psychology

Whilst the author recognises that the implications of this research are applicable not only to Counselling Psychologists but also to other mental health practitioners, this chapter will focus on the key consequences this research could have for Counselling Psychologists working in Forensic Settings. Counselling Psychologists aim to engage with the subjective experience of the client and the values and beliefs that they hold. This research may reveal that certain groups of prisoners are prone to dissociate and experience feelings and behaviours that may appear bizarre and frightening. By understanding such mechanisms Counselling Psychologists have the opportunity to question and gain further information about the clients' subjective experience of dissociation and aim to tackle such mechanisms that create discomfort to an individual.

Another key aspect of the uniqueness of Counselling Psychology is that it is based on humanistic traditions, in particular empathy. Within this particular aspect Counselling Psychologists seek to respect their clients' world views without assuming superiority in knowing, feeling and valuing. Individuals in prison are a group that is often stigmatized by society; without attempting to understand prisoners' world views with empathy, and if assuming that they are 'bad, evil or mad', it would be difficult to not only sustain but also form a therapeutic relationship. It is therefore essential that these principles of Counselling Psychology are used, but also that practitioners are aware of when they may be steering away from them, to aim to strengthen a positive

therapeutic relationship once developed. Furthermore, by understanding why an individual may use substances in relation to PTSD symptoms, some judgements regarding substance-abusing populations being manipulative and attention seeking could be taken away, with it being easier to empathize with individuals enduring such problems.

Working therapeutically with individuals in prison can often be a daunting and difficult task. Knowing that an individual sitting in the therapy room has committed a 'heinous act' can act as a barrier in forming a positive therapeutic relationship. If this barrier is not addressed then it can act as an elephant in the room. By understanding the interaction that dissociation may play on all of the variables that have been investigated in this research Counselling Psychologists could use this opportunity to form a therapeutic alliance with their clients. This could lead to clients feeling understood and valued rather than fearful of what judgements their therapist may hold towards them. This could prevent the reinforcement of beliefs about themselves as a stigmatized and dangerous individual, who is unable to change, and consequently be discriminated against in the therapy room.

Another key aspect of Counselling Psychology is to '*to recognise social contexts and discrimination and to work always in ways that empower rather than control and also demonstrate the high standards of anti-discriminatory practice appropriate to the pluralistic nature of society today*' (Division of Counselling Psychology, 1998). It is important that Counselling Psychologists adhere to this to within a prison environment; this sets them apart from other professionals who may find it difficult to engage with such populations. By being reflective of the power imbalance within the therapy room, and the difficulties that individuals face in their prison life, Counselling Psychologists ensure that anti-discriminatory practice is avoided, which prevents reinforcement of the idea that an individual is part of a stigmatized group.

Within prisons Counselling Psychologists have the role of engaging in psychotherapy with prisoners, using the values and philosophy previously described. This role is quite distinct to other mental health practitioners working in prisons who have other roles. For example, Clinical Psychologists work predominately in using structured assessments in categorizing individuals and assessing prisoners by creating a treatment plan rather than

intervening with their distressing behaviour and engaging in therapy. Forensic Psychologists have little training on mental health and predominately focus on intervening with offending behaviour.

Based on the different findings that have been described so far, and using the philosophy of Counselling Psycholog,y the implications for this research for practitioners working in prisons will now be explored.

Trauma and Dissociation

The cut off score on the IES-R (for trauma) indicated that 44% of the sample experienced symptoms that would constitute a diagnosis of PTSD. This large proportion of the sample experiencing symptoms illustrates the psychological distress displayed by prisoners, and therefore would indicate a need for intervention for this high risk and vulnerable group. This has been one of the few studies assessing for levels of trauma in a prison sample in England and Wales. Implications of such findings are that interventions may need to address trauma even though it may not be initially mentioned in therapy, and dissociative coping strategies may need to be assessed and intervened with. Due to high levels of dissociation displayed by prisoners that may have experienced childhood trauma Counselling Psychologists working with this vulnerable group would benefit from incorporating dissociative behaviour in their case conceptualizations, and depending on the theoretical framework used, aim to address such negative coping responses.

Based on Pearlman and Courtois's (2005) work on the beneficial effect of a positive therapeutic relationship, interventions for dissociation will need to be steeped in the primacy of the therapeutic relationship with the client. Due to the difficulties encountered within childhood individuals may develop maladaptive strategies to cope with these negative experiences. These include avoidance and detachment. Pearlman and Courtois state that it is imperative that these strategies are addressed for individuals to make positive changes in their lives. They state that these strategies could be understood through the therapeutic relationship by observing and providing feedback when they are used. Prisoners that use dissociation would benefit from being introduced to positive coping strategies that no longer reinforce the use of dissociation. Using psycho education, prisoners would benefit from

understanding why they may use dissociative coping responses, appreciate the problematic consequences of such behaviour, and learn about what triggers these particular states. Therapy with prisoners that dissociate could become the 'testing ground' for forming and sustaining relationships with others, due to disorganized attachment styles developed during childhood and that perpetuate the use of dissociation.

Whilst it is important to build upon these skills deficits and create mastery of symptoms, Pearlman and Courtois propose that attachment difficulties are the core problems an individual that has experienced persistent trauma has. They state that it is crucial to understand and 'heal' disorganized attachment styles through the context of a therapeutic relationship. Therefore if therapy is conducted on a long term basis, prisoners would benefit from addressing their disrupted attachment styles through exploration and understanding how to sustain relationships. This could have an effect on their self worth, affect regulation and increase their ability to form healthy relationships. As a result of long term support prisoners may have the opportunity to process their traumatic experiences, and to integrate their distressing memories. Using the structural theory of dissociation (van der Hart et al, 2004) therapy may allow for the development of an integrated personality, no longer consisting of dissociated parts that led to further problems related to PTSD symptoms and using dissociative coping responses. Therapy therefore could have a positive effect by increasing their range of affect, creating insight into their difficulties and being able to cope with distressing experiences. This could also tackle other maladaptive strategies such as substance misuse, self harm and offending behaviour.

Counselling psychologists will need to be aware of the difficulties that they could encounter when working with clients that dissociate. Due to disorganized and insecure attachment styles prisoners may have a push/ pull style, engage in risk taking behaviour, reject the therapist and therapy. Pearlman and Courtois state that it is vital that therapists can tolerate the push/ pull style, allow consistency and reliability in their approach, consequently 'interpersonal security' can develop within the client. They also state that it is important that therapists create hope within the therapeutic

relationship, and most importantly look after themselves to prevent burnout by self-monitoring.

Depending on the individual Counselling Psychologists therapeutic orientation, dissociation could either be addressed using Cognitive Behavioural Therapy (Kennerley, 1996) or within a Psychodynamic perspective (Diamond, 2004). Chapter 1.4 presents the theoretical literature on the concept of dissociation and could be used for formulating how dissociation may have developed and led to further difficulties for an individual.

Cognitive behaviour therapy focusing on preventing depersonalization episodes from being triggered would firstly assess and identify cognitions, affect and behaviour that perpetuate depersonalization states. Interventions would be based on introducing clients to developing skills and connecting with the environment before dissociative states are triggered. Alternatively it may be important to teach clients to decrease and manage symptoms once they are activated, by using grounding techniques and focusing attention to their immediate environment. Based on the work of Kennerley (1996) CBT strategies such as cognitive restructuring, introducing grounding techniques and schema work have all been found to be useful in working with clients that dissociate. Kennerley recommends the use of grounding techniques when clients may dissociate. Grounding techniques could involve using a object such as clay and touching it and staying with that feeling to prevent dissociative experiences such as 'spacing out'. Basic grounding strategies could also be introduced such being aware of touching the floor, or a seat which aim to redirect and focus attention away from the dissociation.

Alternatively a Psychodynamic framework would aim to 'relive' the relationship with the abuser that caused the trauma in the context of transference. As a result, the therapist would aim to rebuild and repair the trauma, through the relationship guided by transference within the room, as a result the client would no longer use dissociation (Diamond, 2004).

There are a further number of implications for Counselling Psychologists working with clients that dissociate regardless of the setting. Foa and Hearst–Ikeda (1996) stated that individuals that dissociate have an impaired awareness of their thoughts and emotions. This has important

implications when completing thought diaries if cognitive behaviour therapy is being utilized, as the individual may have difficulty in completing tasks where they are asked to verbalize their cognitions and emotions. Therefore it will be important for practitioners working with individuals with these difficulties to orient them to labelling emotions and thoughts to overcome their impaired awareness. Due to this difficulty in accessing thoughts and emotions a possible explanation could have been revealed into why prisoners with complex presentations[7] may not complete homework tasks, such as thought diaries.

Offending

Individuals with a history of violent offending revealed the highest level of dissociation, compared to individuals with other offences. This finding highlights the level of psychopathology displayed within this group. This has important implications for Counselling Psychologists working in prisons, but also Counselling Psychologists working in settings where individuals have a history of violent offending.

Counselling Psychologists working in prisons often come into contact with prisoners that have a history of committing violent offences. In the author's clinical experience prisoners often have difficulties in regulating their emotions relating to anger. Based on the understanding of offending and dissociation that has been proposed in Chapter 4.2, the application of Cognitive Analytic Therapy (Ryle, 1997) could be beneficial for prisoners with a history of violent offending. Using Ryle's understandings of such behaviour, prisoners presenting with a violent history and childhood trauma would benefit from understanding Reciprocal Role Procedures (RRP) they enact in their life. By understanding the abuser-abused RRP prisoners could benefit from gaining insight into the relationship between their childhood trauma and the reason for committing a violent act. Furthermore by learning about such behaviour they could prevent any future acts of violence. By understanding the many aspects of the dissociated personality such as that manifested in the violent act, practitioners will possess the knowledge of the clients' difficulties and the problems dissociation can lead to. They may be able to share this

[7] In the authors clinical experience of working in prisons.

knowledge with clients and with time the dissociated parts of personality may become integrated preventing switches between self states that cause violent offending. Research findings of using Cognitive Analytic Therapy have found positive results in offender populations (Pollock & Belshaw, 1998). Using this mode of therapy could lead to dissociation no longer being used as a coping strategy; which consequently could prevent future offending behaviour.

When building case formulations it would be beneficial for Counselling Psychologists to incorporate offending behaviour into difficulties that clients may present with, by understanding how such behaviour developed core beliefs[8] may be revealed. Clients may benefit from learning about when dissociative states are triggered and developing skills in dealing with intolerable affect. Intervening and building skills in affect regulation could prevent depersonalization and amnesia states from being triggered which could also have an effect on aggressive and violent behaviour. The possible consequences of such interventions are that recidivism rates could be reduced.

Following the amnesia of an offence and being charged and imprisoned individuals may become distressed, as they are unable to explain to themselves and others why they are in a prison, therefore they present to therapy for support whilst in a crisis. Counselling Psychologists may be able to work collaboratively with a client on understanding why their offence may have happened, by grasping knowledge of the mechanisms and different ways which behaviour can be manifested. Furthermore, rather than feeling judged and stigmatized for committing a heinous act, as perceived by society, clients could feel understood.

Absorption

From this study it was revealed that individuals with a problematic level of substance use scored higher and would get easily involved in experiences regarding nature and language. These experiences include 'being moved by sunsets', and 'being moved by language'. Clinicians could introduce clients to mindfulness techniques (Segal, Williams & Teasdale, 2002) where they

[8] If using a CBT approach

practice skills and appreciate experiences regarding language, these could involve reading poems or books that a client may find interesting and enjoy.

Clients would also benefit from understanding when such states are triggered. By using self monitoring techniques they may begin to learn when about the onset of a dissociative state. Counselling Psychologists would therefore need to introduce grounding techniques as previously described, to inform clients how to impede such a state.

Self harm

The findings regarding the relationship between self harm and dissociation have important implications for Counselling Psychologists. Ettinger (1992) found that self harmers rated the two most useful aspects of therapy were having or achieving a good therapeutic relationship, followed by attaching meaning and understanding about why self harm may occur. Therefore by understanding the processes that could perpetuate self harm clients may be introduced to the necessary tools to gain insight, by incorporating alternative coping strategies through the guidance of the therapeutic relationship. By psycho educating clients they may begin to gain insight into their depersonalization and dissociation experiences. Consequently Counselling Psychologists can work collaboratively with clients to build and develop coping strategies, and alternative behaviours that do not lead to self harm by learning how to prevent dissociative episodes.

Based on the model presented in Figure 3 an intervention to prevent self harm could focus on increasing self-monitoring skills for depersonalization symptoms. They could also benefit from using grounding techniques to prevent increased arousal following the onset of depersonalization symptoms. Snapping a rubber band around the wrist could be a grounding technique to feel the body and feel 'real again'. This would act as a short term coping strategy. Longer term interventions may aim to provide a cognitive shift to challenge core beliefs that trigger anxiety and depression. The thoughts regarding their loss of control could then be re-evaluated, which could prevent an increase in arousal and self harm. Whilst this is a cognitive model the author places the importance on the therapeutic relationship which would create a trusting relationship for such skills to be used. Without the

foundations of a positive therapeutic relationship such interventions would be less efficacious, for example the trauma that gets relieved will need to be understood in order for an individual to understand how automatic thoughts trigger anxiety related to trauma (Pearlman & Courtois, 2005).

The finding by Lipschitz (1999) that emotional abuse was the strongest predictor of self harm has important implications for therapy. Counselling Psychologist could benefit from asking questions regarding a history of emotional abuse, which can be very covert, yet still create longstanding difficulties in an individual.

Counselling Psychologists working within forensic populations could use the model proposed by the author to intervene with prisoners that self harm to end depersonalization episodes. By introducing skills to clients on how to regain control following the onset of depersonalization symptoms they may be equipped with the necessary tools to prevent using a coping response that has so many negative consequences.

Many of the Counselling Psychologists that work with prisoners that self harm use aspects of Dialectical Behaviour Therapy (Linehan, 1993). However there is no current published work that has investigated the work that is carried out by Counselling Psychologists within prisons. With further investigation the model could therefore be adopted to understand the process that leads to self harm and prevent such behaviour, as a result interventions that could prove to be efficacious with this population could be developed.

Substance use

The finding that individuals with a problematic level of substance use had a higher level of dissociation in this sample has important implications in working with such groups. By becoming incarcerated an individual may have an opportunity to reflect upon their behaviour as they may not have the access to drugs or alcohol. These experiences may lead an individual to become vulnerable and require support as they may not be able to use the coping response of using substances. Whilst being in prison they may no longer be able to use the coping strategy of blocking out intrusive symptoms of PTSD, this may make an individual especially vulnerable and potentially extremely anxious. They could therefore benefit from being introduced to

coping strategies that creates mastery over such symptoms early in prison. By developing a positive therapeutic relationship individuals may feel at ease to understand and process traumatic experiences. As a result, dissociation may no longer be used, which could prevent future substance misuse.

The IES-R could be used as a tool to understand the clients' experience of distress. Within therapy individuals may have a difficulty in verbalising their symptoms, such a tool would allow both the clinician and client in understanding what symptoms are being experienced. This would also allow symptoms to be normalized with the client gaining insight of their difficulties. Therefore therapeutic work involving such tools could be used to inform appropriate interventions and formulating treatment goals.

This study illustrates that just over a half of the sample have a problematic level of substance use, and also experience PTSD symptoms. In a sample of cocaine dependent outpatients Najavits et al (1998) suggested that individuals with co morbidity of difficulties have a poorer outcome of treatment, due to a greater level of difficulties in other areas, for example depression and anxiety. Individuals therefore would benefit from intervention in all of these difficulties, to prevent the use of substances to cope with such problems. A better outcome in the treatment of substance misuse was found by a positive therapeutic relationship (Barber et al, 2000). Therefore it is crucial for Counselling Psychologists to develop a positive therapeutic relationship with this difficult to engage population if they are to foster changes in the future, which will have an impact on their own lives, their family and that of society.

This study also revealed that individuals with a problematic level of substance misuse have a multitude of other difficulties (dissociation and PTSD). Therefore it is important that Counselling Psychologists demonstrate a vast number of skills to deal with a large number of difficulties which an individual may be experiencing, rather than dealing with one sole issue, i.e. substance use. Prisoners with a history of substance misuse that present to therapy may display dissociative behaviour, when faced with challenging or aversive questions that bring up memories of traumatic experiences. They may appear less engaged due to the automatic use of dissociation as an unconscious response to material that is perceived to be threatening. It may

therefore be important to conduct a thorough assessment of prisoners experiences in order to complete an in depth formulation of their difficulties, and therefore apply the appropriate interventions.

Dissemination of research

An overview of the findings of this study has been disseminated at the Joint Conference of the Divisions of Counselling Psychology for the British Psychology Society and Psychological Society of Ireland in June 2008 at Trinity College, Dublin. The rationale for the research was presented as well as the results and implications of the findings to British and Irish Counselling Psychologists.

In the future, it is anticipated that this research will be presented to the CoPiFs group (Counselling Psychologists in Forensic Settings). Specifically, the self harm model described in Figure 3 will be presented to Counselling Psychologists working within the crisis service that work with prisoners that self harm. It is also anticipated by the author that journal editors will be approached for specific aspects of this research to be published in research journals, in particular Forensic Mental Health Journals.

4.7 Summary and Conclusion

These results may address and reflect the complex nature of working with a forensic population. However whilst incarcerated in prison individuals may benefit from therapeutic work, where they can benefit from skills to remain abstinent from drugs and alcohol. Once they feel ready, they can also begin to heal and address aspects of trauma that have never been processed before. Through a positive therapeutic relationship they may begin to repair the negative and disrupted styles of attachment they have developed during childhood. It remains vital that Counselling Psychologists also are aware of the disorganized and disrupted attachment styles of such individuals and how that may be challenging to work with in the therapy room. It is therefore essential for practitioners to be aware of counter-transference reactions which may serve to reinforce negative attachment styles, rather than repairing disrupted attachment styles.

There is a dearth of research on psychological trauma in the prison population in England and Wales (Durcan, 2008). This study has investigated various behaviours that may stem from trauma, namely problematic substance abuse and self harm. A number of studies have investigated the prevalence rates of such behaviour within prisons (Social Exclusion Unit, 2005; Revolving Doors, 2002). However there is little research that has been conducted that investigates the psychological mechanisms that could reinforce these difficulties and help to understand why it may occur. This study has begun to explore such phenomena and could help to inform case formulations. As a result possible explanations as to why clients with a history of self harm and problematic substance use may be difficult to engage with could be revealed.

The area of trauma and dissociation is a complex area. In a prison environment clients presenting with complex forms of trauma are challenging to work with and can be extremely draining on the clinician and staff working with them. They are often stigmatized and labelled as 'manipulative' and 'attention seeking' therefore practitioners are often reluctant to work with such a demanding client group. The benefit of conducting research in this area is that mental health professionals become equipped with a knowledge base, allowing possible explanations to challenging behaviour. Consequently by gaining this knowledge base, interventions with this client group may become more efficacious, compared to when an individual may be perceived as demanding and complex.

This research has highlighted the scale of psychological difficulties that are experienced within the prison population. Whilst there is no clear solution to the difficulties experienced by prisoners there may be a need for therapeutic interventions that tackle dissociative behaviour. Based on the practitioner and their theoretical orientation there are a number of strategies that could be used to intervene with such behaviour (Diamond, 1996; Kennerley, 1996). Using such interventions could lead to significant improvement in an individuals life, where there may be a reduction in urges to self harm, a decreased number of PTSD symptoms such as flashbacks, which could allow for the cessation of substance use. This type of intervention would

take a long time due to the complexity of dissociation, and the long standing effects trauma in childhood can have on an individual.

Whilst the results have revealed relationships between PTSD symptoms, problematic substance use, self harm, absorption and dissociation there is still much to do in finding efficacious interventions to deal with such behaviour, which could consequently have an effect in reducing re-offending amongst the rising prison populations in England and Wales.

Chapter 5. Reflective analysis

In accordance with the 'scientist- practitioner model' and the philosophy of Counselling Psychology a reflective analysis of the process and this research experience will be explored. Whilst it may appear incongruent to use a reflexive approach within a piece of positivist research I feel that it is essential to understand how my personal experiences may have shaped the development of the research question, as well as whether any of these personal experiences had an influence in the outcome of the results that have been presented. A number of practitioners have argued for such methods to be employed and for the broadening of the definition of a "scientist-practitioner" paradigm (Lane & Corrie, 2006). Strawbridge and Woolfe (2004) argue that the scientist-practitioner model in Counselling Psychology addresses knowledge that is gained from experience as well as research, therefore it is important to use both research and experience to inform practice within the scientist-practitioner model. For this experience to be reflected upon a research journal was kept throughout the two years of completing this work.

Reflecting on my experience of working towards becoming a qualified psychologist, my experience of training has been influential in shaping this research study. I studied psychology at undergraduate and postgraduate levels. On completion of my undergraduate degree I wanted to work with individuals experiencing difficulties in their life. Whilst completing my degree I had also completed a Basic Counselling Course where I learnt about listening skills and gained knowledge about the underpinnings of the humanistic approach, in being warm, genuine and empathic (Rogers, 1951).

After this experience I wanted to use the skills I had gained and therefore searched for positions where I would be able to use this knowledge. I secured a post at a Young Offenders Prison where I facilitated a six week course focusing on substance related offending. This course was grounded in cognitive behavioural principles, here I learnt about CBT in a limited way as the programme was insistent on adhering to a treatment manual. Within this role I began to learn about the level of psychopathology experienced within this population. This gave me an alternative viewpoint and I no longer perceived prisoners and the clients I was working with as immoral, based on

my judgements, and on the negative perceptions that are portrayed in the media. Within this post I felt unequipped to be able to support clients when they would present with self harming behaviour, and discuss a history of child sex abuse that led to problems in adulthood.

I therefore decided to pursue further training and decided to train as a Counselling Psychologist due to my previous positive experience with the humanistic perspective, and feeling that the development of a therapeutic relationship was essential for change, rather than adhering to a treatment manual.

Whilst completing my postgraduate training I predominately used cognitive behaviour therapy in my practice and psychodynamic therapy in the last two years. I learnt that CBT did not have to be adherent to a treatment manual and that effective change in clients could be achieved with this type of therapy. Working in prisons during my training I was faced with a large number of clients that presented with a history of self harm, problematic substance use and had experienced traumatic experiences predominately during childhood. Working with this client group has been extremely challenging, with certain clients finding it difficult to engage in therapy. I therefore decided to use this opportunity to complete my doctoral thesis in this particular area to gain further knowledge to inform practice with this group that are often stigmatized in society and perceived as 'evil and bad'.

Research process

During the proposal stages of the research I decided to investigate self harm, substance use and trauma. These particular variables were chosen as I initially found it hard to comprehend why an individual could engage in behaviour that is so destructive. My interest in these variables therefore has shaped this research and supported my thoughts regarding the link between self harm, substance use, trauma and dissociation. During the process of deciding what variables to choose I became immersed in using as many variables as possible as an attempt to control for confounding variables. This led to using a quantitative approach to answer the research question. Another reason for using a quantitative design was that this particular methodology is a strength compared to my knowledge and ability in using qualitative

methods. During the research process I became burdened with so many variables, whilst getting excited about the possible results I found. Through supervision I learnt that it was vital to adhere to the hypotheses that I had formulated within my proposal rather than change all hypotheses using the data that I had gathered.

Reflecting on this process of deciding to choose variables that were of personal interest to me and shaping the research in this particular way there may be advantages and disadvantages of this method. I decided to choose the variables I investigated based largely on personal interest, as I felt that completing such a large piece of work would require me to have a topic that I had personal interest in to keep me motivated in completing such a large piece of work. There are also a number of disadvantages in using this method; firstly I was biased in the variables that I chose. Within the literature dissociation has been found to have a relationship with other factors such as impulsivity (Dench, Murray & Waller, 2005) and eating disorders (Nagata et al, 1999); however I did not choose to incorporate these variables in my study as I had little interest in them.

This biased view has also shaped my understanding and reinforced my idea of the link between self harm, substance use and underlying trauma with offending behaviour. The research has also reinforced my hypotheses regarding the relationship between the above behaviours. I need to remain reflective of my experiences shaping my hypotheses. I have always worked in forensic settings with complex presentations, and this experience has often led me to think that individuals that endure traumatic experiences during childhood commit crimes and engage in self harm and substance misuse behaviour. However, there are a number of individuals that experience traumatic events and do not commit crimes, use substances and engage in self harm; therefore, the interaction between these variables is complex and does need to be applied with caution. These experiences have shaped this research study; by using quantitative methods and tools that have been reliable and valid I was able to support my clinical experience by finding that individuals in prison with a history of substance misuse and self harm have a number of difficulties which could be explained by dissociation.

On reflection, in an attempt to understand the complex relationship of dissociation with a number of factors, I not only decided to use a challenging population to work with, but also decided to use a large number of factors. However by immersing myself in such a process, I realise that this experience has been extremely exhausting yet rewarding, and an area of my life whereby I exert pressure and stress on myself, which could be managed effectively by limiting myself to the level of work that I take on.

As a result of using so many variables, and in order to save time in collecting data, participants did not always complete the measures on an individual basis with the researcher and there could have been group effects confounding the results. There were often other participants also completing the measures within the room. I had used this strategy to be able to complete my data collection as soon as possible as I was eager to get started on analysing my data. Therefore one of the limitations described above could have been influenced by my anxiety in completing the research.

During the process of conducting my research and interacting with participants I became engrossed with the data, however there were often times when I became frustrated with the prison system when participants would complete questionnaires and there was so much external noise that I was worried that this could affect how participants were completing the questionnaires. Having reflected on the times I was conducting my research, I realise that I had also collected data at the weekends when I knew that prisoners would be available and not be going to engage in activities and education in the prison; this may have affected prisoners' motivation to complete questionnaires when they had some time to themselves and did not have to go and do activities and work.

My interest in the forensic sample led me to create an additional hypothesis regarding the influence of offending on dissociation. My final year clinical experience, where I predominately focused on offending, motivated me to look at this factor, as I had learnt that the perpetration of some violent and sexual crimes could be a sign of some form of psychopathology and could be explained by processes such as dissociation.

On reflection upon my motivation for completing research and working with a forensic population, a number of factors has been revealed. Firstly, I

like to challenge myself in working with complex presentations. Secondly, working with a stigmatized group has also allowed me to shape and change some of the beliefs that I have about individuals and difficulties that they may experience. For example, whilst I still hold the view that perpetrating sexual abuse is bad, I feel that I have the necessary tools and resilience in working with such behaviour, and hope to be able to give individuals the skills in working to change such destructive behaviour. Another motivation for me in completing work in this particular area is that I hope that by working therapeutically with forensic populations I have the opportunity to not only help to relieve the distress experienced by an individual, but also by those affected by crimes, therefore the families of offenders, victims and their families and society as a whole. I realise that this monstrous task can not be fulfilled by my research, but I hope that it could reveal and help to minimize the distress for a number of individuals.

This research has been a quantitative piece of work using a positivist paradigm; my training as a Counselling Psychologist has, however, been to value the subjective experience' of the client rather than using diagnosis and objective measures to understand human behaviour. By completing positivist research I have received grounding on understanding the complex behaviour of dissociation, which I knew very little about two years ago and therefore would have been unable to value the clients' experiences if they had presented with such behaviour.

By writing this reflective analysis I have been able to think about how my thoughts and beliefs as well all of the decisions I made in conducting this research have shaped this project. In particular I have thought about my anxieties in covering as much material as possible, as well as about how I conducted the research and how various aspects of the research could have been confounded; however this process has given me skills in not only being a reflective practitioner, but also a reflective researcher who does shape the research even when using quantitative methodology.

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SASSI - 3
ADULT FORM

If a statement tends to be TRUE for you, fill in the square in the column headed T: that is, ■
If a statement tends to be FALSE for you, fill in the square in the column headed F: that is, ■
Please try to answer all questions.

Fill in this way ■
Not like this ☑

	T	F	
1.	☐	☐	Most people would lie to get what they want.
2.	☐	☐	Most people make some mistakes in their life.
3.	☐	☐	I usually "go along" and do what others are doing.
4.	☐	☐	I have never been in trouble with the police.
5.	☐	☐	I was always well behaved in school.*
6.	☐	☐	My troubles are not all my fault.*
7.	☐	☐	I have not lived the way I should.
8.	☐	☐	I can be friendly with people who do many wrong things.
9.	☐	☐	I do not like to sit and daydream.*
10.	☐	☐	No one has ever criticized or punished me.
11.	☐	☐	Sometimes I have a hard time sitting still.
12.	☐	☐	People would be better off if they took my advice.
13.	☐	☐	At times I feel worn out for no special reason.*
14.	☐	☐	I think I would enjoy moving to an area I've never been before.
15.	☐	☐	It is better not to talk about personal problems.
16.	☐	☐	I have had days, weeks or months when I couldn't get much done because I just wasn't up to it.
17.	☐	☐	I am very respectful of authority.
18.	☐	☐	I like to obey the law.*
19.	☐	☐	I have been tempted to leave home.*
20.	☐	☐	I often feel that strangers look at me with disapproval.
21.	☐	☐	Other people would fall apart if they had to deal with what I handle.
22.	☐	☐	I have avoided people I did not wish to speak to.
23.	☐	☐	Some crooks are so clever that I hope they get away with what they have done.
24.	☐	☐	My school teachers had some problems with me.*
25.	☐	☐	I have never done anything dangerous just for fun.
26.	☐	☐	I need to have something to do so I don't get bored.
27.	☐	☐	I have sometimes drunk too much.*
28.	☐	☐	Much of my life is uninteresting.*
29.	☐	☐	Sometimes I wish I could control myself better.*
30.	☐	☐	I believe that people sometimes get confused.
31.	☐	☐	Sometimes I am no good for anything at all.*
32.	☐	☐	I break more laws than many people.*
33.	☐	☐	If some friends and I were in trouble together, I would rather take the whole blame than tell on them.
34.	☐	☐	Crying does not help anything.
35.	☐	☐	I think there is something wrong with my memory.*
36.	☐	☐	I have sometimes been tempted to hit people.*
37.	☐	☐	My most important successes are not a direct result of my effort.
38.	☐	☐	I always feel sure of myself.
39.	☐	☐	I have never broken a major law.*
40.	☐	☐	There have been times when I have done things I couldn't remember later.
41.	☐	☐	I think carefully about all my actions.*
42.	☐	☐	I have used alcohol or "pot" too much or too often.
43.	☐	☐	Nearly everyone enjoys being picked on and made fun of.
44.	☐	☐	I know who is to blame for most of my troubles.
45.	☐	☐	I frequently make lists of things to do.
46.	☐	☐	I guess I know some pretty undesirable types.*
47.	☐	☐	Most people will laugh at a joke at times.
48.	☐	☐	I have rarely been punished.*
49.	☐	☐	I smoke cigarettes regularly.
50.	☐	☐	At times I have been so full of energy that I felt I didn't need sleep for days at a time.
51.	☐	☐	I have sometimes sat about when I should have been working.*
52.	☐	☐	I am often resentful.
53.	☐	☐	I take all my responsibilities seriously.*
54.	☐	☐	I have neglected obligations to family or work because of drinking or using drugs.
55.	☐	☐	I have had a drink first thing in the morning to steady my nerves or get rid of a hangover.
56.	☐	☐	While I was a teenager, I began drinking or using other drugs regularly.
57.	☐	☐	My father was/is a heavy drinker or drug user.
58.	☐	☐	When I drink or use drugs I tend to get into trouble.
59.	☐	☐	My drinking or other drug use causes problems between me and my family.
60.	☐	☐	I do most of my drinking or drug using away from home.
61.	☐	☐	At least once a week I use some non-prescription antacid and/or diarrhea medicine.
62.	☐	☐	I have never felt sad over anything.
63.	☐	☐	I am rarely at a loss for words.*
64.	☐	☐	I am usually happy.*
65.	☐	☐	I am a restless person.
66.	☐	☐	I like doing things on the spur of the moment.
67.	☐	☐	I am a binge drinker/drug user.

Name _____ Date _____ Sex _____ Age ____

the S·A·S·S·I

*These items are taken from the Psychological Screening inventory. Copyright© 1968 by Richard I. Lanyon, Ph.D, and are used here by permission.

For each item below, circle the number which reflects how often you have experienced the situation described during:

- ❒ your entire life
- ❒ the past six months
- ❒ the six months before _____
- ❒ the six months since _____

ALCOHOL (FVA)

Never	Once or Twice	Several Times	Repeatedly	
0	1	2	3	1. Had drinks with lunch?
0	1	2	3	2. Taken a drink or drinks to help you express your feelings or ideas?
0	1	2	3	3. Taken a drink or drinks to relieve a tired feeling or give you energy to keep going?
0	1	2	3	4. Had more to drink than you intended to?
0	1	2	3	5. Experienced physical problems after drinking (e.g. nausea, seeing/hearing problems, dizziness, etc.)?
0	1	2	3	6. Gotten into trouble on the job, in school, or at home because of drinking?
0	1	2	3	7. Become depressed after having sobered up?
0	1	2	3	8. Argued with your family or friends because of your drinking?
0	1	2	3	9. Had the effects of drinking recur after not drinking for a while (e.g. flashbacks, hallucinations, etc.)?
0	1	2	3	10. Had problems in relationships because of your drinking (e.g. loss of friends, separation, divorce, etc.)?
0	1	2	3	11. Become nervous or had the shakes after having sobered up?
0	1	2	3	12. Tried to commit suicide while drunk?

OTHER DRUGS (FVOD)

Never	Once or Twice	Several Times	Repeatedly	
0	1	2	3	1. Taken drugs to improve your thinking and feeling?
0	1	2	3	2. Taken drugs to help you feel better about a problem?
0	1	2	3	3. Taken drugs to become more aware of your senses (e.g. sight, hearing, touch, etc.)?
0	1	2	3	4. Taken drugs to improve your enjoyment of sex?
0	1	2	3	5. Taken drugs to help forget that you feel helpless and unworthy?
0	1	2	3	6. Taken drugs to forget school, work, or family pressures?
0	1	2	3	7. Gotten into trouble with the law because of drugs?
0	1	2	3	8. Gotten really stoned or wiped out on drugs (more than just high)?
0	1	2	3	9. Tried to talk a doctor into giving you some prescription drug (e.g. tranquilizers, pain killers, diet pills, etc.)?
0	1	2	3	10. Spent your spare time in drug-related activities (e.g. talking about drugs, buying, selling, taking, etc.)?
0	1	2	3	11. Used drugs and alcohol at the same time?
0	1	2	3	12. Continued to take a drug or drugs in order to avoid the pain of withdrawal?
0	1	2	3	13. Felt your drug use has kept you from getting what you want out of life?
0	1	2	3	14. Been accepted into a treatment program because of drug use?

Marital Status: Married or equivalent [] Never Married [] Divorced [] Widowed [] Separated []

Employment Status: Full-time [] Part-time [] Not employed [] Student [] Homemaker [] Disabled [] Retired []

Highest Grade Completed _____ Ethnic Origin _____

Weekly Family Take Home Income:

[] Prefer not to answer [] $0 [] Less than $200 [] $200-300 [] $301-400 [] $401-500 [] $501-600 [] $601-700 [] $701-800 [] $801-900 [] Over $900 [] Not Sure

Number of People in your Family: _____

Miscellaneous

A [] B [] C [] D [] E [] F []

The S·A·S·S·I

SASSI-3 Substance Abuse Subtle Screening Inventory

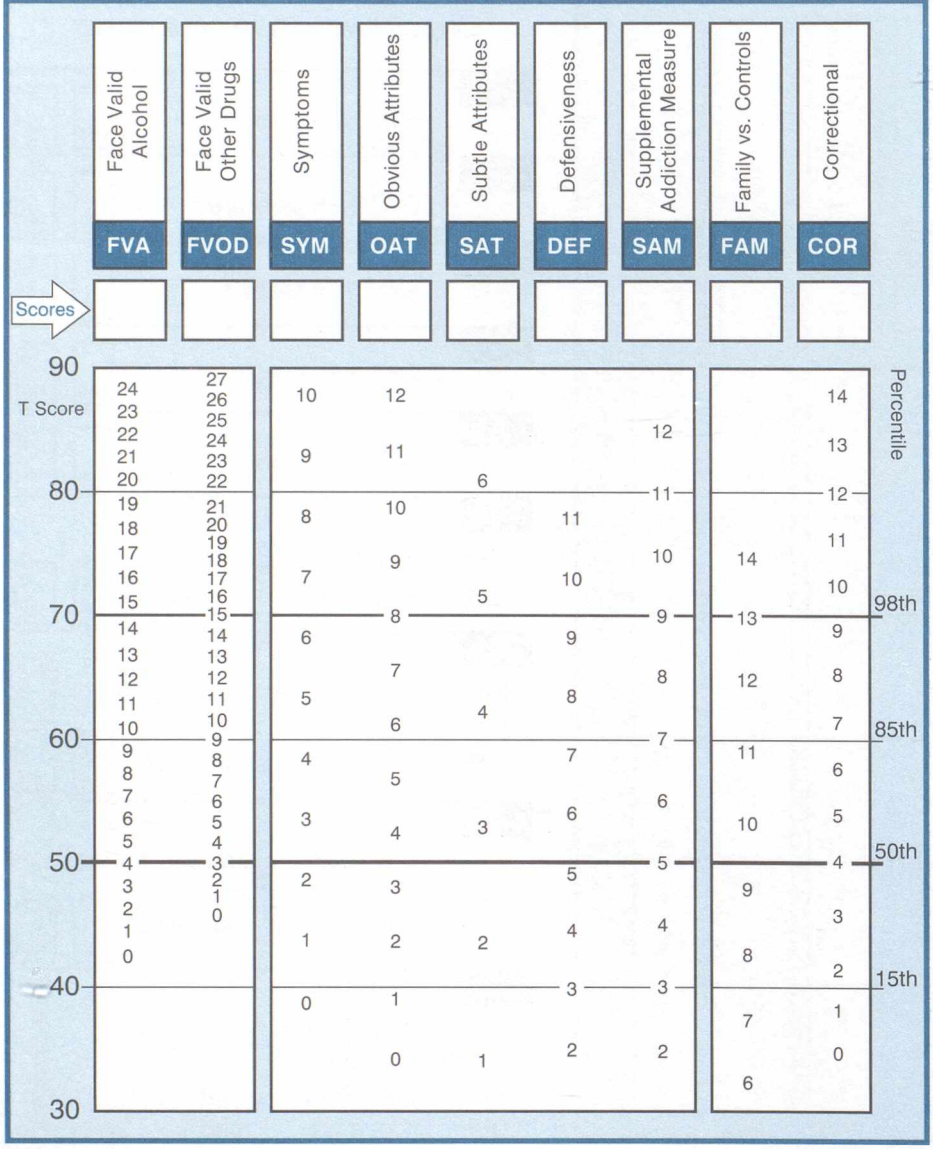
For free consultation on this profile 1-888 BY SASSI • 1-888-297-2774 • M–Th 8–6 • Fri 8–5 EST

The SASSI

Name _____ Gender F Age _____

Client ID _____ Test Date _____

Adult Female Profile



RAP	Random Answering Pattern

☐ **Check if RAP is 2 or more.** Results may not be meaningful. Try to resolve problem before proceeding.

Check every rule, yes or no.

Rule 1	FVA 20 or more?	yes	no
Rule 2	FVOD 21 or more?	yes	no
Rule 3	SYM 7 or more?	yes	no
Rule 4	OAT 10 or more?	yes	no
Rule 5	SAT 6 or more?	yes	no
Rule 6	OAT 7 or more ____ and SAT 5 or more ____. **Both?**	yes	no
Rule 7	FVA 9 or more OR FVOD 15 or more ____and SAM 8 or more ____. **Both?**	yes	no
Rule 8	OAT 5 or more ____and DEF 8 or more ____and SAM 8 or more ____. **All three?**	yes	no
Rule 9	FVA 14 or more OR FVOD 8 or more ____and SAT 2 or more ____ and DEF 4 or more ____ and SAM 4 or more ____. **All four?**	yes	no

The Decision Rule:

Any rule answered "yes"? ⇨ **High Probability** of having a Substance Dependence Disorder

All rules answered "no"? ⇨ **Low Probability** of having a Substance Dependence Disorder

☐ **Check if DEF is 8 or more.** Elevated DEF scores increase the possibility of the SASSI missing substance dependent individuals. Elevated DEF may also reflect situational factors.

B-P301 P-B 7/99

SASSI-3 Substance Abuse Subtle Screening Inventory

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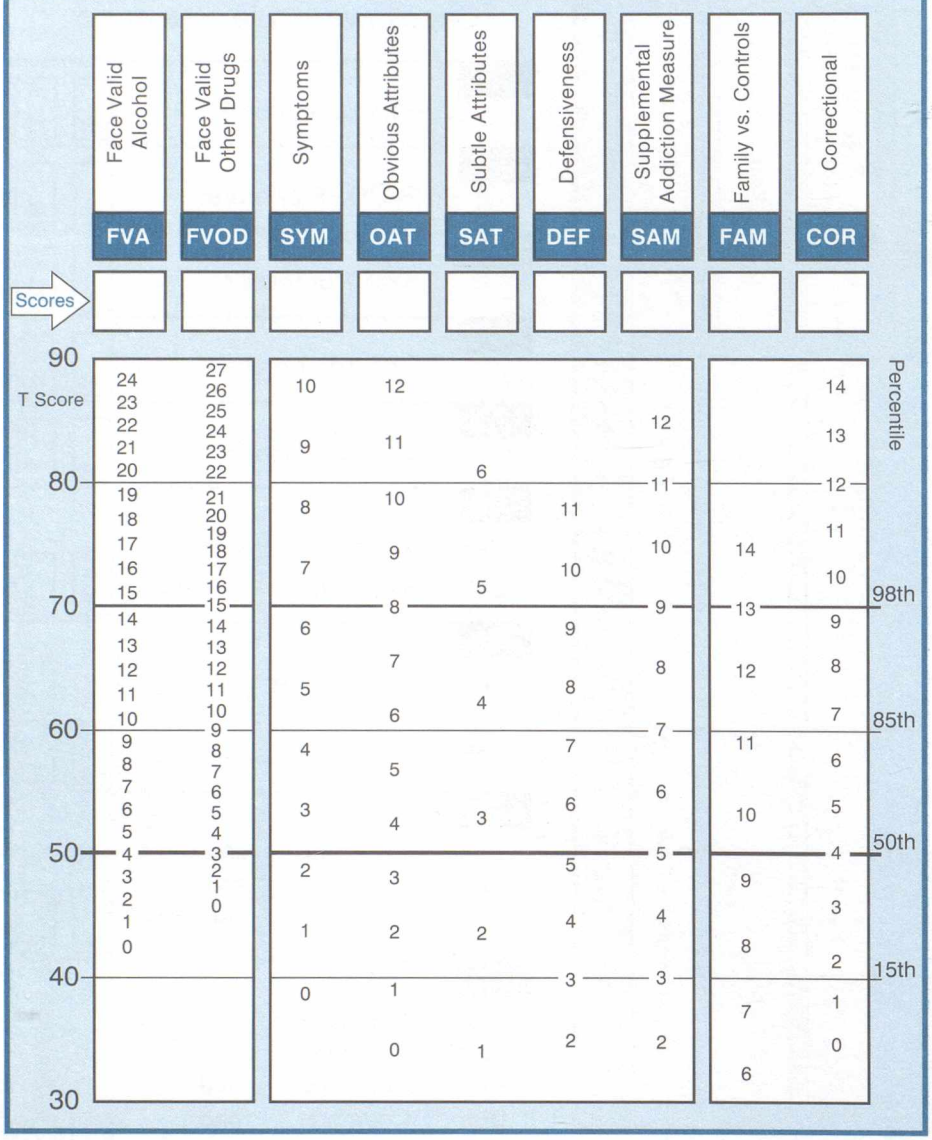
Name _____ Gender F Age _____

Client ID _____ Test Date _____

Adult Female Profile



RAP Random Answering Pattern

☐ **Check if RAP is 2 or more.** Results may not be meaningful. Try to resolve problem before proceeding.

Check every rule, yes or no.

Rule 1 FVA 20 or more? yes no

Rule 2 FVOD 21 or more? yes no

Rule 3 SYM 7 or more? yes no

Rule 4 OAT 10 or more? yes no

Rule 5 SAT 6 or more? yes no

Rule 6
OAT 7 or more ____ and
SAT 5 or more ____. **Both?** yes no

Rule 7
FVA 9 or more OR
FVOD 15 or more } ____and
SAM 8 or more ____. **Both?** yes no

Rule 8
OAT 5 or more ____and
DEF 8 or more ____and
SAM 8 or more ____. **All three?** yes no

Rule 9
FVA 14 or more OR
FVOD 8 or more } ____and
SAT 2 or more ____ and
DEF 4 or more ____ and
SAM 4 or more ____. **All four?** yes no

The Decision Rule:

Any rule answered "yes"? ⇨ **High Probability** of having a Substance Dependence Disorder

All rules answered "no"? ⇨ **Low Probability** of having a Substance Dependence Disorder

☐ **Check if DEF is 8 or more.** Elevated DEF scores increase the possibility of the SASSI missing substance dependent individuals. Elevated DEF may also reflect situational factors.

Appendix A: Demographics Sheet

Age: _____

Index Offence: _____

Remand / Sentenced: _____

Number of times in Prison: _____

Ethnic Background (please circle)
White British, White Irish, White Other, Black Caribbean, Black African, Asian Indian, Asian Pakistani, Asian Bangladeshi, Asian other, Mixed Caribbean, Mixed Asian, Mixed Other.

Other, please state: _____

Psychiatric diagnosis (Have you ever been diagnosed/ suffer from any mental health problems):
If so, what: _____

Have you ever experienced a traumatic event before coming into prison, which you found very distressing situation? For example, being in a war, car accident, physical, sexual attack?

Yes/ No (delete appropriately)

If so, how old were you: _____

How many times have you experienced extremely distressing situations in your life?

_____

Do you have a supportive family/ network?

Yes/ No (delete appropriately)

Have you ever harmed yourself (eg, cut yourself, taken an overdose)?

Yes/ No (delete appropriately)

If so when was the last time? _____

Have you in the past or currently receiving any psychological support / therapy, before or after prison? **Yes/ No (delete appropriately)**

If yes please state when? _____

Have you completed any offending behaviour programmes?

If so what? _____

Appendix B: Dissociative Experiences Scale.

This questionnaire consists of twenty-eight questions about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important, however, that your answers show how often these experiences happen to you when you are not under the influence of alcohol or drugs.

To answer the questions, please determine to what degree the experience described in the question applies to you and choose the point which corresponds to the percentage of the time you have the experience. The left of the scale, labelled 'Never', corresponds to 0% of the time, while the right of the scale, labelled 'Always', corresponds to 100% of the time. Each point goes up 10% therefore the middle mark is 50%.

Please ensure you answer all of the questions.

1. Some people have the experience of driving or riding in a car or bus or train and suddenly realizing that they don't remember what has happened during all or part of the trip.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

0% 100%

2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

3. Some people have the experience of finding themselves in a place and having no idea how they got there.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

5. Some people have the experience of finding new things among their belongings that they do not remember buying.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

6. Some people sometimes find that they are approached by people that they do not know who call them by another name or insist that they have met them before.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

0% 100%

7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

8. Some people are told that they sometimes do not recognize friends or family members.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation).

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

10. Some people have the experience of being accused of lying when they do not think that they have lied.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

11. Some people have the experience of looking in a mirror and not recognizing themselves.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

12. Some people have the experience of feeling that other people, objects, and the world around them are not real.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

13. Some people have the experience of feeling that their body does not seem to belong to them.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

0% 100%

15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

18. Some people find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

19. Some people find that they sometimes are able to ignore pain.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

20. Some people find that that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

21. Some people sometimes find that when they are alone they talk out loud to themselves.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

23. Some people sometimes find that in certain situations they are able to do things with amazing case and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.).

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

0% 100%

24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that this (for example, not knowing whether they have just mailed a letter or have just thought about mailing it).

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

25. Some people find evidence that they have done things that they do not remember doing.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

28. Some people sometimes feel as if they are looking at the world through a fog so that people and objects appear far away or unclear.

(Never) ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ *(Always)*

Appendix C: SASSI

Appendix D: The Impact of Event Scale - Revised

Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you DURING THE PAST SEVEN DAYS with respect to _____, **(Please indicate a stressful/ traumatic event)**

How much were you distressed or bothered by these difficulties?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Any reminder brought back feelings about it	0	1	2	3	4
I had trouble staying asleep	0	1	2	3	4
Other things kept making me think about it	0	1	2	3	4
I felt irritable and angry	0	1	2	3	4
I avoided letting myself get upset when I thought about it or was reminded of it	0	1	2	3	4
I thought about it when I didn't mean to	0	1	2	3	4
I felt as if it hadn't happened or wasn't real	0	1	2	3	4
I stayed away from reminders about it	0	1	2	3	4
Pictures about it popped into my mind	0	1	2	3	4
I was jumpy and easily startled	0	1	2	3	4
I tried not to think about it	0	1	2	3	4

	Not at all	A little bit	Moderately	Quite a bit	Extremely
I was aware that I still had a lot of feelings about it, but I didn't deal with them	0	1	2	3	4
My feelings about it were kind of numb	0	1	2	3	4
I found myself acting or feeling as though I was back at that time	0	1	2	3	4
I had trouble falling asleep	0	1	2	3	4
I had waves of strong feelings about it	0	1	2	3	4
I tried to remove it from my memory	0	1	2	3	4
I had trouble concentrating	0	1	2	3	4
Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart	0	1	2	3	4
I had dreams about it	0	1	2	3	4
I felt watchful or on guard	0	1	2	3	4
I tried not to talk about it	0	1	2	3	4

Appendix E: Tellegen Absorption Scale

This questionnaire consists of questions about experiences that you may have had in your life. The researcher is interested in how often you have these experiences. ***Please circle on a scale of 0 – 3 (0 = Never, 1 = Sometimes, 2 = Often 3 = Always).*** *It is important, however, that your answers show how often these experiences happen to you when you are not under the influence of alcohol or drugs*

01. Sometimes I feel and experience things as I did when I was a child
Never 0 1 2 3 **Always**

02. I can be greatly moved by eloquent or poetic language.
Never 0 1 2 3 **Always**

03. While watching a movie, a TV show, or a play, I may become so involved that I forget about myself and my surroundings and experience the story as if I were taking part in it.
Never 0 1 2 3 **Always**

04. If I stare at a picture and then look away from it, I can sometimes "see" an image of the picture, almost as if I were looking at it.
Never 0 1 2 3 **Always**

05. Sometimes I feel as if my mind could envelop the whole world
Never 0 1 2 3 **Always**

06. I like to watch cloud shapes change in the sky.
Never 0 1 2 3 **Always**

07. If I wish, I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does.
Never 0 1 2 3 **Always**

08. I think I really know what some people mean when they talk about mystical experiences.
Never 0 1 2 3 **Always**

09. I sometimes "step outside" my usual self and experience an entirely different state of being.
Never 0 1 2 3 **Always**

10. Textures --such as wool, sand, wood -- sometimes remind me of colours or music.

Never 0 1 2 3 **Always**

11. Sometimes I experience things as if they were doubly real.

Never 0 1 2 3 **Always**

12. When I listen to music, I can get so caught up in it that I don't notice anything else.

Never 0 1 2 3 **Always**

13. If I wish, I can imagine that my body is so heavy that I could not move it if I wanted to.

Never 0 1 2 3 **Always**

14. I can often somehow sense the presence of another person before I actually see or hear her/him.

Never 0 1 2 3 **Always**

15. The crackle and flames of a wood fire stimulate my imagination.

Never 0 1 2 3 **Always**

16. It is sometimes possible for me to be completely immersed in nature or in art and to feel as if my whole state of consciousness has somehow been temporarily altered.

Never 0 1 2 3 **Always**

17. Different colours have distinctive and special meanings for me.

Never 0 1 2 3 **Always**

18. I am able to wander off into my own thoughts while doing a routine task, and then find a few minutes later that I have completed it.

Never 0 1 2 3 **Always**

19. I can sometimes recollect certain past experiences in my life with such clarity and vividness that it is like living them again, or almost so.

Never 0 1 2 3 **Always**

20. Things that might seem meaningless to others often make sense to me.

Never 0 1 2 3 **Always**

21. While acting in a play, I think I could really feel the emotions of the character and "become" her/him for the time being, forgetting both myself and the audience.

Never 0 1 2 3 **Always**

22. My thoughts often don't occur as words, but as visual images.

Never 0 1 2 3 **Always**

23. I often take delight in small things (like the five-pointed star shape that appears when you cut an apple across the core, or the colours in soap bubbles).

Never 0 1 2 3 **Always**

24. When listening to organ music or other powerful music, I sometimes feel as if I am being lifted into the air.

Never 0 1 2 3 **Always**

25. Sometimes I can change noise into music by the way I listen to it.

Never 0 1 2 3 **Always**

26. Some of my most vivid memories are called up by scents and smells.

Never 0 1 2 3 **Always**

27. Certain pieces of music remind me of pictures or moving patterns of colour.

Never 0 1 2 3 **Always**

28. I often know what someone is going to say before he or she says it.

Never 0 1 2 3 **Always**

29. I often have "physical memories"; for example, after I've been swimming, I may still feel as if I'm in the water.

Never 0 1 2 3 **Always**

30. The sound of a voice can be so fascinating to me that I can just go on listening to it.

Never 0 1 2 3 **Always**

31. At times I somehow feel the presence of someone who is not physically there.

Never 0 1 2 3 **Always**

32. Sometimes thoughts and images come to me without the slightest effort on my part.

Never 0 1 2 3 **Always**

33. I find that different odours have different colours.

Never 0 1 2 3 **Always**

34. I can be deeply moved by a sunset.

Never 0 1 2 3 **Always**

Appendix F(i): Consent form

Counselling Psychology,
London Metropolitan University.

Name of Researcher: Sunil Lad
Name of Supervisor: Professor Stuart Millar/ Jill Mytton

Informed Consent Form

I am a Counselling Psychologist in training at London Metropolitan University. I am conducting research for my doctorate thesis.

I shall be conducting interviews will prisoners at HMP Wandsworth looking at levels of substance use (prior to custody) self harm, incidence of trauma, levels of dissociation, which will help to inform .

It would be much appreciated if you partake in this study. **However, it is completely your choice and your rights and privileges within the prison will not be affected if you decide not to be involved.** Furthermore any support you receive within the prison will not be affected.

Similarly, you can pull out if you feel uncomfortable at any time during completion of the questionnaires and any information gathered up to that point will be destroyed.

If you agree to complete the questionnaires, please note the following guidelines I will follow to make this as private as possible for you:

1. All of the completed questionnaires will be kept in a safe place. Apart from my supervisor and I, no one inside or outside the prison will have access to the questionnaire results.
2. The examiners will not know any names. I will use a number to represent everybody involved. Only my supervisor and I will know who those numbers refer to.
3. Confidentiality will be maintained, except in the following circumstances:
    - If during the completion of the questionnaires, it is felt that someone, including yourself, may be at risk of self harm or suicide.
    - If you speak of any children being mistreated or abused
    - Any current or potential breaches of security in the prison.
    - If you speak of a crime that has been committed but you are not convicted of it.
4. I would ask you not to disclose any information about upcoming court cases or any illegal activities that you have not been convicted of.
5. Participation in this research will have no input into any decisions made in court for example, regarding sentencing.

I have been informed about what the research involves. I agree to be interviewed and have my interview taped. I recognise that I can withdraw at any stage without giving a reason.

Appendix F (ii) : Consent form

Participant's Signature Date

_____ _____

Researcher's Signature Date

_____ _____

Appendix G: Power analysis

F tests – ANOVA: Fixed effects, special, main effects and interactions

Analysis:	A priori: Compute required sample size		
Input:	Effect size f	=	0.4764387
	α err prob	=	0.05
	Power (1−β err prob)	=	0.95
	Numerator df	=	2
	Number of groups	=	5
Output:	Noncentrality parameter λ	=	16.343556
	Critical F	=	3.133762
	Denominator df	=	67
	Total sample size	=	72
	Actual power	=	0.952217

Appendix H: (i) One way ANOVA: Trauma age and dissociation

DES_Total

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	Min	Max	Between-Component Variance

					Lower Bound	Upper Bound			
1.00	53	1.9325	1.74850	.24018	1.4506	2.4145	.00	7.07	
2.00	21	3.0063	1.49977	.32728	2.3236	3.6889	.39	5.39	
3.00	33	2.3562	1.76881	.30791	1.7290	2.9834	.00	6.96	
Total	107	2.2739	1.74222	.16843	1.9400	2.6078	.00	7.07	
Model Fixed Effects			1.70993	.16531	1.9461	2.6017			
Random Effects				.30776	.9497	3.5981			.17782

ANOVA

DES_Total

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.664	2	8.832	3.021	.053
Within Groups	304.082	104	2.924		
Total	321.746	106			

Post Hoc tests

Multiple Comparisons

Dependent Variable: DES_Total
Dunnett C

(I) Trauma_age	(J) Trauma_age	Mean Difference (I-J)	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1.00	2.00	-1.07375(*)	.40595	-2.0841	-.0634
	3.00	-.42368	.39050	-1.3767	.5293
2.00	1.00	1.07375(*)	.40595	.0634	2.0841
	3.00	.65007	.44935	-.4715	1.7716
3.00	1.00	.42368	.39050	-.5293	1.3767
	2.00	-.65007	.44935	-1.7716	.4715

* The mean difference is significant at the .05 level.

Appendix H (ii) One way ANOVA's: Trauma age DES subscales

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
DES_amnesia	1.00	53	1.8443	1.88346	.25871	1.3252	2.3635	.00	7.88

	2.00	21	2.8631	1.71433	.37410	2.0827	3.6434	.00	5.63
	3.00	33	2.1629	1.69745	.29549	1.5610	2.7648	.00	5.88
	Total	107	2.1425	1.81990	.17594	1.7937	2.4913	.00	7.88
DES_ depersonalization	1.00	53	1.1384	1.81333	.24908	.6385	1.6382	.00	8.33
	2.00	21	2.0873	1.97809	.43165	1.1869	2.9877	.00	5.67
	3.00	33	1.4899	2.05984	.35857	.7595	2.2203	.00	8.33
	Total	107	1.4330	1.93945	.18749	1.0613	1.8047	.00	8.33
DES_absorption	1.00	52	2.5021	2.04328	.28335	1.9333	3.0710	.00	7.33
	2.00	20	3.7889	1.84834	.41330	2.9238	4.6539	.56	6.33
	3.00	32	3.1701	2.20982	.39064	2.3734	3.9669	.00	8.44
	Total	104	2.9551	2.10241	.20616	2.5463	3.3640	.00	8.44
DEST	1.00	52	1.3654	1.82773	.25346	.8565	1.8742	.00	7.25
	2.00	21	2.3155	1.82843	.39900	1.4832	3.1478	.00	6.00
	3.00	33	1.9091	2.11308	.36784	1.1598	2.6584	.00	7.88
	Total	106	1.7229	1.94025	.18845	1.3492	2.0965	.00	7.88

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DES_amnesia	Between Groups	15.630	2	7.815	2.423	.094
	Within Groups	335.447	104	3.225		
	Total	351.077	106			
DES_depersonalization	Between Groups	13.698	2	6.849	1.850	.162
	Within Groups	385.016	104	3.702		
	Total	398.714	106			
DES_absorption	Between Groups	26.053	2	13.026	3.065	.051
	Within Groups	429.219	101	4.250		
	Total	455.272	103			
DEST	Between Groups	15.165	2	7.582	2.055	.133
	Within Groups	380.117	103	3.690		
	Total	395.281	105			

Dunnett C

Dependent Variable	(I) Trauma_ age	(J) Trauma_age	Mean Difference (I-J)	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
DES_amnesia	1.00	2.00	-1.01876	.45484	-2.1522	.1147
		3.00	-.31854	.39274	-1.2760	.6389
	2.00	1.00	1.01876	.45484	-.1147	2.1522

		3.00	.70022	.47672	-.4926	1.8930
	3.00	1.00	.31854	.39274	-.6389	1.2760
		2.00	-.70022	.47672	-1.8930	.4926
DES_ depersonalization	1.00	2.00	-.94894	.49836	-2.1952	.2973
		3.00	-.35153	.43660	-1.4180	.7150
	2.00	1.00	.94894	.49836	-.2973	2.1952
		3.00	.59740	.56116	-.8057	2.0005
	3.00	1.00	.35153	.43660	-.7150	1.4180
		2.00	-.59740	.56116	-2.0005	.8057
DES_absorption	1.00	2.00	-1.28675(*)	.50111	-2.5395	-.0340
		3.00	-.66800	.48259	-1.8479	.5119
	2.00	1.00	1.28675(*)	.50111	.0340	2.5395
		3.00	.61875	.56870	-.8047	2.0422
	3.00	1.00	.66800	.48259	-.5119	1.8479
		2.00	-.61875	.56870	-2.0422	.8047
DEST	1.00	2.00	-.95009	.47269	-2.1302	.2301
		3.00	-.54371	.44671	-1.6352	.5478
	2.00	1.00	.95009	.47269	-.2301	2.1302
		3.00	.40639	.54268	-.9485	1.7613
	3.00	1.00	.54371	.44671	-.5478	1.6352
		2.00	-.40639	.54268	-1.7613	.9485

* The mean difference is significant at the .05 level.

Appendix H (iii): Pearsons Correlation: IES-R and DES

	Mean	Std. Deviation	N
DES_Total	2.2739	1.74222	107
IES_Total	31.0594	24.77128	101

		DES_Total	IES_Total
DES_Total	Pearson Correlation	1	.524(**)
	Sig. (1-tailed)		.000
	N	107	100
IES_Total	Pearson Correlation	.524(**)	1
	Sig. (1-tailed)	.000	
	N	100	101

** Correlation is significant at the 0.01 level (1-tailed).

Appendix H (iv) Pearsons Correlations for IES-R and DES subscales

	Mean	Std. Deviation	N
DES_Total	2.2739	1.74222	107
DES_amnesia	2.1425	1.81990	107
DES_depersonalization	1.4330	1.93945	107
DES_absorption	2.9551	2.10241	104
DEST	1.7229	1.94025	106
IES_Total	31.0594	24.77128	101
IES_Avoidance	10.9327	8.80342	104
IES_Intrusions	12.4571	9.88689	105
IES_hyperarousal	8.2647	7.23157	102

		IES_Total	IES_Avoidance	IES_Intrusions	IES_hyperarousal
DES_Total	Pearson Correlation	.524(**)	.459(**)	.529(**)	.550(**)
	Sig. (1-tailed)	.000	.000	.000	.000
	N	100	103	104	101
DES_amnesia	Pearson Correlation	.416(**)	.366(**)	.431(**)	.450(**)
	Sig. (1-tailed)	.000	.000	.000	.000
	N	100	103	104	101
DES_ depersonalization	Pearson Correlation	.438(**)	.369(**)	.460(**)	.474(**)
	Sig. (1-tailed)	.000	.000	.000	.000
	N	100	103	104	101
DES_absorption	Pearson Correlation	.548(**)	.493(**)	.545(**)	.553(**)
	Sig. (1-tailed)	.000	.000	.000	.000
	N	98	101	101	98
DEST	Pearson Correlation	.443(**)	.376(**)	.465(**)	.469(**)
	Sig. (1-tailed)	.000	.000	.000	.000
	N	99	102	103	100

** Correlation is significant at the 0.01 level (1-tailed).

Appendix H (v): Independent t tests for IES-R cut off and DES

Group Statistics

	ies_cutoff	N	Mean	Std. Deviation	Std. Error Mean
DES_Total	1.00	59	1.6021	1.55357	.20226

2.00	48	3.0997	1.61374	.23292

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interva of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DES_Total	Equal variances assumed	.155	.694	-4.874	105	.000	-1.49762	.30727	-2.10688	-.88836
	Equal variances not assumed			-4.855	98.992	.000	-1.49762	.30848	-2.10972	-.88552

Appendix I (i): One way ANOVA, offences and DES

DES_Total

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Acquisitive crime	19	2.0188	1.47304	.33794	1.3088	2.7288	.00	5.18
Violent offence	33	3.1246	1.95876	.34098	2.4300	3.8191	.00	7.07
sex offence	21	2.0993	1.66312	.36292	1.3423	2.8564	.00	5.36
money related	25	1.4929	1.24531	.24906	.9788	2.0069	.00	4.75
Misc	9	2.2703	1.81541	.60514	.8749	3.6658	.04	5.89
Total	107	2.2739	1.74222	.16843	1.9400	2.6078	.00	7.07

DES_Total

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	41.008	4	10.252	3.725	.007
Within Groups	280.738	102	2.752		
Total	321.746	106			

Appendix I (ii): One way ANOVA, offences and DES Subscales

Descriptives

DES subscales		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
amnesia	Acquisitive	19	1.8947	1.67926	.38525	1.0854	2.7041	.00	5.75

	crime								
	Violent offence	32	3.1641	1.99000	.35179	2.4466	3.8815	.00	7.88
	sex offence	21	1.9702	1.71751	.37479	1.1884	2.7520	.00	5.25
	money related	25	1.3000	1.27169	.25434	.7751	1.8249	.00	4.38
	Misc	10	1.8125	1.69071	.53465	.6030	3.0220	.00	5.13
	Total	107	2.1425	1.81990	.17594	1.7937	2.4913	.00	7.88
Deperson alization	Acquisitive crime	19	1.0175	1.25326	.28752	.4135	1.6216	.00	4.83
	Violent offence	33	2.3939	2.52447	.43945	1.4988	3.2891	.00	8.33
	sex offence	20	1.2750	1.70163	.38050	.4786	2.0714	.00	5.17
	money related	25	.5267	1.11563	.22313	.0662	.9872	.00	5.00
	Misc	10	1.6333	1.71378	.54194	.4074	2.8593	.00	5.50
	Total	107	1.4330	1.93945	.18749	1.0613	1.8047	.00	8.33
absorption	Acquisitive crime	19	2.6316	1.93589	.44412	1.6985	3.5646	.00	6.33
	Violent offence	32	3.7014	2.14757	.37964	2.9271	4.4757	.00	7.78
	sex offence	20	2.8389	2.31684	.51806	1.7546	3.9232	.00	8.44
	money related	25	2.3689	1.86386	.37277	1.5995	3.1383	.00	5.78
	Misc	8	2.8611	2.09539	.74083	1.1093	4.6129	.11	7.00
	Total	104	2.9551	2.10241	.20616	2.5463	3.3640	.00	8.44
DEST	Acquisitive crime	19	1.3158	1.52660	.35023	.5800	2.0516	.00	5.00
	Violent offence	32	2.7383	2.43243	.43000	1.8613	3.6153	.00	7.88
	sex offence	20	1.5313	1.66172	.37157	.7535	2.3090	.00	5.50
	money related	25	.8500	1.09449	.21890	.3982	1.3018	.00	4.38
	Misc	10	1.8125	1.90599	.60273	.4490	3.1760	.00	6.00
	Total	106	1.7229	1.94025	.18845	1.3492	2.0965	.00	7.88

Dunnett C

(I) Offence_type	(J) Offence_type	Mean Difference (I-J)	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Acquisitive crime	Violent offence	-1.10579	.48007	-2.5249	.3133

	sex offence	-.08052	.49590	-1.5717	1.4106
	money related	.52594	.41980	-.7320	1.7838
	Misc	-.25152	.69310	-2.5750	2.0720
Violent offence	Acquisitive crime	1.10579	.48007	-.3133	2.5249
	sex offence	1.02527	.49797	-.4408	2.4914
	money related	1.63173(*)	.42225	.4034	2.8601
	Misc	.85427	.69459	-1.4507	3.1593
sex offence	Acquisitive crime	.08052	.49590	-1.4106	1.5717
	Violent offence	-1.02527	.49797	-2.4914	.4408
	money related	.60646	.44017	-.7041	1.9171
	Misc	-.17100	.70562	-2.5224	2.1804
money related	Acquisitive crime	-.52594	.41980	-1.7838	.7320
	Violent offence	-1.63173(*)	.42225	-2.8601	-.4034
	sex offence	-.60646	.44017	-1.9171	.7041
	misc	-.77746	.65439	-2.9900	1.4351
misc	Acquisitive crime	.25152	.69310	-2.0720	2.5750
	Violent offence	-.85427	.69459	-3.1593	1.4507
	sex offence	.17100	.70562	-2.1804	2.5224
	money related	.77746	.65439	-1.4351	2.9900

* The mean difference is significant at the .05 level.

Appendix J(i): Independent t test: TAS and self harm

Group Statistics

	Self harm	N	Mean	Std. Deviation	Std. Error Mean
TAS	no self harm	75	29.8533	20.57662	2.37598
	self harm	33	40.9697	24.48786	4.26279

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
TAS	Equal variances assumed	2.656	.106	-2.438	106	.016	-11.11636	4.56042	-20.15783	-2.07489
	Equal variances not assumed			-2.278	52.769	.027	-11.11636	4.88023	-20.90587	-1.32686

Appendix J (ii) Independent t test: TAS subscales and self harm

	Self harm	N	Mean	Std. Deviation	Std. Error Mean
absorption	no self harm	73	7.3151	6.52320	.76348
	self harm	33	10.4545	7.61204	1.32509

intuition	no self harm	74	7.4459	4.86571	.56563
	self harm	32	10.5625	5.67358	1.00296
imaginative_involvement	no self harm	74	7.1486	5.20980	.60563
	self harm	33	9.2424	5.62933	.97994
trance	no self harm	74	2.4730	2.62351	.30498
	self harm	33	4.2424	3.50027	.60932
nature_lang	no self harm	74	5.3919	3.25121	.37795
	self harm	33	6.9091	4.28197	.74539

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
absorption	Equal variances assumed	2.155	.145	-2.176	104	.032	-3.13948	1.44248	-5.99997	-.27899
	Equal variances not assumed			-2.053	54.122	.045	-3.13948	1.52930	-6.20538	-.07357
intuition	Equal variances assumed	2.012	.159	-2.877	104	.005	-3.11655	1.08323	-5.26464	-.96847
	Equal variances not assumed			-2.707	51.637	.009	-3.11655	1.15146	-5.42751	-.80560
imaginative involvement	Equal variances assumed	.459	.500	-1.873	105	.064	-2.09378	1.11803	-4.31062	.12307
	Equal variances not assumed			-1.818	57.440	.074	-2.09378	1.15198	-4.40020	.21265
trance	Equal variances assumed	4.136	.044	-2.896	105	.005	-1.76945	.61096	-2.98088	-.55802
	Equal variances not assumed			-2.597	48.702	.012	-1.76945	.68138	-3.13895	-.39995
nature_lang	Equal variances assumed	5.400	.022	-2.015	105	.046	-1.51720	.75289	-3.01004	-.02435
	Equal variances not assumed			-1.815	49.145	.076	-1.51720	.83574	-3.19655	.16215

Appendix J (iii) Independent t test: TAS, self harm and trauma

Group Statistics

	Self harm	N	Mean	Std. Deviation	Std. Error Mean
TAS	no self harm	30	31.3333	19.81176	3.61712

self harm	21	42.5714	25.50798	5.56630

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TAS	Equal variances assumed	3.204	.080	-1.770	49	.083	-11.23810	6.34855	-23.99598	1.51979
	Equal variances not assumed			-1.693	36.027	.099	-11.23810	6.63831	-24.70087	2.22468

Appendix J (iv) Independent t test: TAS subscales and self harm

	Self harm	N	Mean	Std. Deviation	Std. Error Mean
absorption	no self harm	30	7.5667	6.38254	1.16529
	self harm	21	11.0000	7.94984	1.73480
intuition	no self harm	30	7.6000	4.93824	.90160
	self harm	21	11.4286	5.89552	1.28651
imaginative_involvement	no self harm	30	7.2333	4.83296	.88237
	self harm	21	9.6190	5.77474	1.26015
trance	no self harm	30	2.6000	2.44385	.44618
	self harm	21	4.1429	3.78531	.82602
nature_lang	no self harm	30	5.5000	2.84968	.52028
	self harm	21	7.1905	4.43417	.96762

	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Differen	95% Confidence Interval of the Difference

								ce		
									Lower	Upper
absorption	Equal variances assumed	1.498	.227	-1.708	49	.094	-3.43333	2.00997	-7.47251	.60585
	Equal variances not assumed			-1.643	36.934	.109	-3.43333	2.08984	-7.66800	.80133
intuition	Equal variances assumed	1.968	.167	-2.515	49	.015	-3.82857	1.52210	-6.88735	-.76979
	Equal variances not assumed			-2.437	38.127	.020	-3.82857	1.57098	-7.00850	-.64864
imaginative_ involvement	Equal variances assumed	1.644	.206	-1.601	49	.116	-2.38571	1.49028	-5.38054	.60912
	Equal variances not assumed			-1.551	38.103	.129	-2.38571	1.53836	-5.49969	.72827
trance	Equal variances assumed	4.353	.042	-1.770	49	.083	-1.54286	.87154	-3.29428	.20857
	Equal variances not assumed			-1.643	31.523	.110	-1.54286	.93883	-3.45632	.37060
nature_lang	Equal variances assumed	8.289	.006	-1.659	49	.104	-1.69048	1.01918	-3.73860	.35765
	Equal variances not assumed			-1.539	31.425	.134	-1.69048	1.09862	-3.92990	.54895

Appendix J (vii) Independent t test: TAS, substance use and trauma

	ProbSU	N	Mean	Std. Deviation	Std. Error Mean
absorption	1.00	23	7.3043	7.32638	1.52766
	2.00	28	10.3571	6.91865	1.30750
intuition	1.00	23	7.9130	5.41809	1.12975

	2.00	28	10.2143	5.67879	1.07319
imaginative_involvement	1.00	23	7.0870	5.34205	1.11390
	2.00	28	9.1429	5.21191	.98496
trance	1.00	23	2.4348	2.51949	.52535
	2.00	28	3.8929	3.45703	.65332
nature_lang	1.00	23	4.6522	3.00921	.62746
	2.00	28	7.4643	3.67657	.69481

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
absorption	Equal variances assumed	.060	.807	-1.527	49	.133	-3.05280	1.99932	-7.07058	.96499
	Equal variances not assumed			-1.518	45.947	.136	-3.05280	2.01079	-7.10044	.99485
intuition	Equal variances assumed	.440	.510	-1.470	49	.148	-2.30124	1.56556	-5.44736	.84488
	Equal variances not assumed			-1.477	47.863	.146	-2.30124	1.55823	-5.43450	.83202
Imaginative involvement	Equal variances assumed	.011	.918	-1.386	49	.172	-2.05590	1.48325	-5.03660	.92480
	Equal variances not assumed			-1.383	46.626	.173	-2.05590	1.48691	-5.04781	.93601
trance	Equal variances assumed	1.940	.170	-1.687	49	.098	-1.45807	.86441	-3.19517	.27903
	Equal variances not assumed			-1.739	48.380	.088	-1.45807	.83834	-3.14333	.22718
nature_lang	Equal variances assumed	1.362	.249	-2.945	49	.005	-2.81211	.95489	-4.73104	-.89319
	Equal variances not assumed			-3.004	49.000	.004	-2.81211	.93620	-4.69347	-.93075