The Assessment and Treatment of Violence in Personality Disordered Offenders

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Abstract

This thesis examines the assessment and treatment of violence in personality disordered offenders, with the view of identifying pertinent issues to be considered when appraising risk within clinical practice.

Chapter 1 reviews the relevant literature and outlines the remaining thesis. A systematic review evaluating Dialectical Behaviour Therapy (DBT) with borderline personality disordered (BPD) inpatients can be found in Chapter 2. Despite highlighting a number of methodological limitations, the review indicates DBT as having positive therapeutic effects within secure settings.

Chapter 3 examines the predictive validity of the Historical/Clinical/Risk Management- 20 (HCR-20; Webster, Douglas, Douglas Eaves & Hart, 1997) showing it to be a valid and reliable within forensic populations. However, the review indicates the need for additional research, making recommendations for such work.

The empirical paper in Chapter 4 investigates the concept Dangerous and Severe Personality Disorder (DSPD). A DSPD sample is compared to a non DSPD personality disordered group from the same setting on a number of risk related variables. Analysis of hospital incident data and Historical Clinical Risk Management-20 (HCR-20) scores suggests DSPD patients are at a higher risk of imminent harm to themselves and others than the comparison group. These findings offer substantiation to the DSPD label and the accompanying therapeutic programme.

An individualised approach to risk assessment and treatment of a Learning Disabled offender with Borderline Personality Disorder is presented in Chapter 5, serving to highlight

the difficulties with management of personality disordered inpatients. Chapter 6 offers concluding comments, discussing further implications for clinical practice.

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Chapter 1 – Introduction

The Assessment and Treatment of Violence in Personality Disordered Offenders.

1.1 Personality Disorder

Personality disorders (PD) receive considerable attention in the clinical field. Historically, there has been a strong interest shown in how they relate to anti-social and criminal behaviour. This is expected given that at an interpersonal level, PDs frequently manifest in behaviours that are complex, unlikeable and often damaging to others. Similarly, at a personal level, PDs are expressed by characteristic cognitions and ways of feeling and behaving that are in some sense maladaptive, self defeating or, in relation to prevailing social norms, objectionable.

Personality disorders are detailed in the two key diagnostic schedules; the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV; American Psychiatric Association, 1994, 2000) and the International Classification of Diseases 10 (ICD-10; World Health Organisation, 1992). DSM-IV describes personality disorder as;

An enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment (p.629).

Similarly, ICD-10 describes personality disorder as;

...deeply ingrained and enduring behaviour patterns, manifesting themselves as inflexible responses to a broad range of personal and social situations. They represent either extreme

or significant deviations from the way the average individual in a given culture perceives, thinks, feels, and particularly relates to others. Such behaviour patterns tend to be stable and to encompass multiple domains of behaviour and psychological functioning. They are frequently, but not always, associated with various degrees of subjective distress and problems in social functioning and performance (p.200).

Within the two classification systems a number of personality disorders have been identified further. These are illustrated in Table 1 in addition to their predominant characteristics. The similarities between the PDs in the two classification systems are evident. DSM-IV groups the personality disorders into three clusters; Cluster A – odd or eccentric (paranoid, schizoid and schizotypal); Cluster B – dramatic or ostentatious (antisocial, borderline, histrionic and narcissistic); and Cluster C –anxious or fearful (avoidant, dependant and obsessive-compulsive). However, whilst diagnostic groups are important to enable clinicians to know what they are treating, and the likely difficulties individuals will experience, service users often develop lengthy diagnostic histories including contrasting diagnoses from different clinicians and presentations which often can't be fitted under 'a label'. Neither nosological system has inferred it is perfect, with the imminent introduction of DSM-V likely to bring about more changes, more debate and the need for more research.

Table 1

DSM-IV and ICD-10 Personality Disorders

DSM –IV	ICD-10
Cluster A	
Paranoid - distrusting, suspiciousness	**Paranoid** – sensitive, suspiciousness
Schizotypal - social and interpersonal deficits	No comparable
Schizoid – socially/emotionally disconnected	**Schizoid** - emotionally cold and detached
Cluster B	
Antisocial – infringes rights of others,	**Dissocial** - callous disrespect of others,

deceitful **Borderline** - volatility of relationships, self image and disposition, manipulative **Histrionic** - disproportionate emotionality and attention seeking **Narcissistic** – grandiose, lack of empathy, desire for admiration, manipulative *Cluster C* **Avoidant** - socially repressed, views self as inadequate, hypersensitivity **Dependant** – clinging, acquiescent **Obsessive-compulsive** – perfectionist, rigid	deceitful **Emotionally unstable** - indistinct self image, intense, volatile relationships, reckless **Histrionic** – dramatic, egotistic manipulative seeking No comparable **Anxious** – apprehensive, self-conscious, hypersensitive **Dependant** - subordinates own needs, reassurance seeking **Anankastic** – indecisive, pedantic, rigid

1.1.1 Diagnosis of Personality Disorder

The assessment of DSM-IV or ICD-10 personality disorders is a long and complex process. Several structured or semi-structured interviews were developed to overcome the poor reliability and validity of clinical judgement and to ensure diagnoses are applied in a reliable manner. Examples of such interviews are the International Personality Disorder Examination (Loranger er al., 1994); the Structured Clinical Interview for DSM-IV, Axis II (First et al., 1995) and the Personality Disorder Interview – IV (Widiger et al., 1995). One problem is that such interviews are time intensive, in addition them only supposed to be completed by suitably competent and qualified clinicians. With the assessments becoming more readily available this is often not the case.

However, attempts to develop self report measures for the assessment of personality disorders have so far met with only limited success, table 1 highlighting the manipulative and deceitful behaviours often found exhibited by personality disordered individuals. Generally, self-report measures have low agreement with interview based diagnoses and tend to be

highly susceptible to bias, both diagnostic tools whether self report or structured assessments being an area that is still evolving and requiring further research.

In respect of prevalence of personality disorder, a study in 2006 of a representative sample of the UK general population identified it as being 4.4% (Coid et al., 2006b). Men were found to be more likely to have a personality disorder (5.4%) than women (3.4%). From this, it was estimated three and a quarter million people in the United Kingdom have a personality disorder (Coid et al., 2006a).

Whilst this fairly recent study indicates the apparent growing recognition for research into personality disorder prevalence, it is the only one to date that appears to have included a big enough sample size for results to be generalisable to overall populations. Large scale research which merely identifies prevalence rates of PD in community, inpatient and outpatient settings appears to be absent, with results to date appearing to be on small scale studies, looking at specifics such as treatment outcomes and risk prediction. Whilst these are paramount areas of research in their own right, determining the number of people affected by personality disorder would seem fundamental, only then would additional research be able to be further identified and supported.

1.1.2 Categorical Models

On the whole, knowledge about causes and treatment of personality disorders has not been as well developed as for other established psycho-medical problems (Gunderson, 1992). Two categorical models initially evolved; those of classical psychiatrists and those of psychoanalytic theorists, like Freud, Abraham and Reich (Millon & Davis, 1995; Millon et al., 1996). In the early twentieth century classical psychiatry described personality disorders as precursors or milder forms of more severe mental disorders. In contrast, from a psychoanalytic perspective personality disorders were related to frustrations or indulgences of

instinctual or libidinous drives, especially in conjunction with specific stages of maturation (Millon & Davis, 1995).

This lack of consensus amongst clinicians regarding the nature of personality disorder is likely to have resulted in the two distinct nosological systems. Given that the authors of the ICD-10 and DSM-IV collaborated to reach the degree of similarity as is seen in Table 1, there are still some outstanding differences in relation to classification and diagnosis of different personalities, or how many personality disorders are in existence.

1.1.3 Dimensional Models

Increased interest in personality disorders led to further scrutiny of the diagnostic categorical models. One of the main areas of concern was that the existing nosologies were based on the opinions of practitioners from a multitude of theoretical backgrounds, in the apparent absence of any empirical support. A second problem arose in that categorical systems based on clinical approaches failed to capture relevant information about the nature and severity of symptomology. An individual simply had the disorder or they didn't.

Thirdly, co-morbidity between disorders evolved as a considerable confounding factor, research indicating most individuals suffering from a personality disorder appear to fulfil the diagnostic criteria for two or three separate personality disorders (Costa & Widiger, 1994, 2003; Stuart et al., 1998). Indeed, only about 15% of patients met criteria for a single personality disorder (Costa &Widiger, 1994, 2003; Stuart et al., 1998), this high degree of co-morbidity complicating both research and clinical practice. If a patient meets criteria for more than one personality disorder, it is unclear whether treatment target all of them separately, those symptoms common to all the disorders, or only the primary disorder. If the latter is the case then questions arise as to which criteria should be used to identify primary vs. secondary personality disorders.

Empirically-based dimensional structured models (Widiger & Frances, 1994; Widiger & Sanderson, 1995) were developed with the issue of co-morbidity in mind as they are thought to go some way to explaining the lack of clear boundaries between categorical diagnoses. However, none as yet have found a viable solution to the assessment of the co morbid diagnosis. To date, the most prominent dimensional model in respect of personality pathology is the five factor model (FFM), which whilst originally designed to describe normal personality however has become applicable to the personality disorder field. The five factor model as measured by the revised NEO Personality Inventory (Costa & McRae, 1992) is summarised in Table 2.

Whilst the model appears to have become accepted within academia, it has had limited success within clinical fields, maybe due to its lack of simplified structure (when comparable to the DSM-IV and ICD-10), resulting in the accompanying assessment not appearing to be widely used. As a result there appears no real treatment pathway to have come from it either, with there then being little point in the models application within clinical practice.

Table 2

Dimensional model of normal personality; the five factor model.

*NEO – PI – R factor and facet scales
Neuroticism
Anxiety, hostility, depression, self-consciousness, impulsiveness, vulnerability
Extraversion
Warmth, gregariousness, assertiveness, activity, excitement-seeking, positive emotion
Openess
Fantasy, aesthetics, feelings, actions, ideas, values
Agreeableness

Trust, straightforwardness, altruism, compliance, modesty, tender mindedness
Conscientiousness
Competence, order, dutifulness, achievement striving, self-discipline, deliberation

***NEO – PI – R = revised NEO Personality Inventory (Costa & McRae, 1992).**

1.1.4 Personality Disorder and Offending

The association between personality disorders and offending behaviour is equally complex and multi-faceted. In some cases, personality disorder is a primary target for treatment because it is seen to play a causal role in the person's criminal and violent behaviour. Put simply it is the severity of the PD that is seen to cause the individual to behave violently, however well known difficulties arise when this approach is applied, such as source of diagnosis (categorical or dimensional), acceptable definition of violence and co-occurrence of PD (Duggan & Howard, 2009). In less clinical environments (e.g., prisons), it is the offending behaviour that is the target of treatment change, with the personality disorder severity often only being assessed as an indication of an offender's level of motivation and readiness to change.

Never the less, the link between personality disorder and criminality is unsurprising, given that a general trait of antagonism or hostility is characteristic of at least eight of the ten personality disorders in DSM-IV. This relationship is supported by studies which have examined the prevalence of personality disorder amongst offenders. Research in a number of different countries has consistently reported prevalence rates ranging from 10 to 15% for primary clinical diagnoses of personality disorder (e.g., Aderibigbe, Arboleda-Florez & Crisante., 1996; Anderson et al., 1996; Birmingham, Mason & Grubin., 1996; Brooke et al., 1996).

Furthermore, in contrast to offenders with mental illness, those with personality disorders have been found to be at a greater chance of reoffending upon release from hospital. Jamieson and Taylor (2004), in their 12 year follow up study (n=204) of patients discharged from UK high security hospitals, established that 38% were reconvicted within the follow up timeframe. They identified the likelihood of reconviction was seven times higher for personality disordered offenders compared with those that were mentally ill. It is important to note however, that although the personality disordered sample group were more likely to be reconvicted, nearly two thirds remained conviction free within the 12 year timeframe.

Whilst epidemiological research suggests a relationship between some types of PD's and offending behaviour in general, the relationship appears compounded in studies which examine violent offending in particular.

1.1.5 Personality Disorder and Violence

Examination of the relationship between personality disorder and violence is not new. In 1990, Swanson et al., examined the relationship between violence and mental disorder as part of the National Institute of Mental Health's Epidemiological Catchment Area Survey. Through 10000 structured interviews, they reported 2.1% of those not meeting the DSM criteria for 'mental disorder' self-reported perpetrating violence in the previous year, in comparison, 59.3% of those meeting the criteria for 'personality disorder' reported committing such acts. A number of longitudinal studies have further provided strong evidence of personality disorders representing a significant clinical risk for violence (Berman et al., 1998; Johnson et al., 2000). However, again research is largely contradictory with the fact that a large percentage of personality disordered samples aren't violent appearing to be 'buried' and seen as less significant.

Coid's (1998) study of forensic samples aimed to explore the question of how psychopathology, and PD in particular, contributed to violent behaviour. Of the sample, 48% had been convicted of murder, attempted murder or wounding. The author concluded that PDs ''appear to make a substantial contribution to the motivation of serious criminal behaviour'' (Coid, 1998, p. 67). He acknowledged however, that a number of possible confounding factors had not been controlled for, specifically co-morbidity and drug and illicit substance use. Nonetheless, the study further noted people with cluster B disorders (e.g. antisocial, borderline, histrionic), compared to those without, were ten times more likely to have a criminal conviction and almost eight times more likely to have spent time in prison. This elevation of criminal risk was not raised for those with Cluster A (e.g. paranoid, schizotypal, schizoid) and C (e.g. avoidant, obsessive-compulsive, dependant) personality disorders. Konstantinos et al. (2008) corroborate these results. Reviewing the most recent research on personality disorder and violence led them to suggest both antisocial and borderline personality disorders are strongly related to the manifestation of violent acts.

Coid and colleagues (Coid et al., 2006a, b.) have further pursued their epidemiological enquires by collecting data regarding PD and offending in more representative samples taken from the community. Their recent survey of a national household population in the United Kingdom found that the presence of any PD was associated with a very small increase in risk of violence, this again markedly increasing when combined with illicit substance use (Coid et al., 2006a).

To summarise, the above mentioned research suggests that personality disorder is associated with crime and violence. However, the evidence is limited and weak and the nature of the association is unclear. There are obvious concerns due to the presence of confounding factors within the diagnostic criteria and the fact that a significant percentage of individuals within the relevant studies of personality disordered patients appear not to be

violent. More research is needed to establish not just each individual disorder's association with violence and aggression but to examine further the overall relationship between personality pathology, violence and offending behaviour.

1.1.6 Risk Assessment of Violence

Violence can take several forms depending on the setting in which it occurs, the relationship between aggressor and victim, and the type of aggressive act that is presented by the aggressor. Baron and Richardson (1994) define violence as ''a range of behaviours intended to harm a living being who is motivated to avoid harm'' (p. 11). McMurran (2009) reports this description as being useful in that it excludes harmful acts that are accidental (e.g., a road traffic accident), consensual (e.g., sadomasochism) and ultimately advantageous (e.g., medical procedures) (p.3). Furthermore, it is useful for both clinical and research purposes to differentiate acts of violence and aggression. McMurran (2009) defines violence as being ''the forceful infliction of physical harm, whereas aggression is behaviour that is less physically harmful (e.g. insults, threats, ignoring), although it is often severely psychologically damaging.'' (p.3).

Clinicians often rely on a number of contrasting approaches to risk assessment of violence. The unstructured clinical judgement approach is based solely on clinical expertise of the professional. This method has been described as an ''informal, 'in the head', impressionistic, subjective conclusion, reached (somehow) by clinical judgement'' (Grove & Meehl, 1996, p.293). Research has revealed numerous disadvantages of applying this method, including poor predictive validity and inter-rater reliability (Quinsey et al., 1998). However, apart from the relevant competence and experience it requires no additional materials and can be completed instantaneously, it often being found accompanying more formalised methods.

In contrast, the actuarial approach to risk assessment concerns itself with empirically derived past indicators or cues, and involves probability estimates of the likelihood of violence occurring. It represents a major development from previous attempts to predict 'dangerousness', which tended to imply certainty. These predictions are derived by considering 'risk factors' to establish the probability of harm. The benefits of these assessments are that they subsequently allow the clinician to weight the impact of a range of factors that may affect an individual's propensity for violent behaviour over a varying timeframe. This may then lead to better matching of appropriate interventions to individuals (Ferris et al., 1997). Shortfalls of this method have also been identified, and include the failure to incorporate flexibility when considering individual variation, and failure to prioritise clinically relevant variables (Singh, 2002). However, in general, previous research comparing the two approaches indicates that the actuarial method is superior (Grove & Meehl, 1996; Lidz, Mulvey & Gardener, 1993; Quinsey, Harris, Rice & Cormier, 1998).

Whilst static risk factors such as personal demographic and criminal history variables have been shown to be robust predictors of future offending, dynamic risk factors such as antisocial attitudes, substance abuse and educational deficiencies (that can be targeted in treatment) can be shown to change over short periods of time (Lindsay et al., 2004), also predicting recidivism (Quinsey, Coleman, Jones, & Altrows., 1997). This is of considerable importance in secure settings where the principal focus of violence risk assessment is in the more immediate timeframe rather than years after transfer and release, and where the aim is to identify targets that might be amenable to intervention in order to lower the risk of violence. It is critically important to accurately identify factors functionally related to offending behaviour in order for them to be correctly assessed, managed and targeted in treatment.

This led to the development of third generation assessments known as structured judgement schemes with the emphasis moving away from one of simple risk prediction to one of risk management and prevention. Whilst a range of these assessments have been in situ for some time, developments in the field of risk assessment are still emerging, a 4th generation of assessments which incorporate management strategies and relevant frameworks being unveiled. Whilst few would argue the area of risk prediction is simple, the assessments appear to becoming more complex and multifaceted, with assessment having moved from one of pure prediction to one of prediction, assessment and treatment. Whilst this appears a natural and understandable development, it is felt if the process is made too complex some professionals may return to relying on clinical judgement, both financial and other resource limitations meaning many professionals do not have time to be completing lengthy and complex assessments and the relevant paperwork.

Methodological issues constantly hinder research in the area of violence risk assessment. For example, many of the studies use past violent behaviour as a selection criteria, therefore introducing bias and limiting the usefulness of findings. A more preferable approach would be to utilise a prospective design to allow for interviewing of patients and the collection of collateral data. In addition, further research should aim to utilise more than one outcome method (e.g. self report and incident data) where possible to increase the likelihood that they are measuring true rates of violence. The use of a standardised tool to record violent behaviours should be employed if appropriate.

1.1.7 Dangerous and Severe Personality Disorder

One of the offender groups studied within this thesis are those detained under the dangerous and severe personality disorder classification. Following the murder of Megan and Josie Russell by Michael Stone, an individual diagnosed with a personality disorder whom was

also being monitored by forensic psychiatric services, the government under increased public scrutiny introduced the concept of dangerous and severe personality disorder (DSPD) in 1999.

This subsequently became a programme for individuals who satisfy three requirements: (1) have a severe disorder of personality, (2) present a significant risk of causing serious physical or psychological harm from which the victim would find it difficult or impossible to recover, and (3) their risk of offending is functionally linked to the personality disorder. This meant an individual could be detained on the basis of their assumed risk without having completed an actual offence, this concept therefore being highly controversial.

There are currently four DSPD male services within the high secure estate in the UK; the underpinning philosophy remaining that public protection will be best served by addressing the mental health needs of a previously neglected group. Whilst research on the DSPD group is readily emerging with the development of the service, it is as yet largely speculative and often focused on recidivism, meaning causal factors and more imminent risk behaviours have yet to be fully researched.

1.1.8 Personality Disorder and Treatment

Individuals with personality disorder, until recent years, have had a limited number of mental health professionals willing to take responsibility for their treatment and an overall shortage of specialist services available to them. However, the guidance document, *Personality Disorder; No longer a diagnosis of exclusion,* published in 2003 by the National Institute for Mental Health provoked an increase in specialist services and overall improvements in standards of care.

Since this date, a number of different treatment approaches for personality disorder have been both proposed and made available. These draw upon a wide range of theoretical orientations, including psychodynamic psychotherapy (Gabbard, 2001; Magnavita, 1999), psychosocial treatments (Piper & Joyce, 2001) and behavioural and cognitive treatments (Cotrraux & Blackburn, 2001; Robins, Ivanoff & Lineham, 2001). Each intervention appears to produce broadly similar outcomes, however good quality research in relation to treatment efficacy is scarce and strongly biased towards borderline personality disorder (Duggan et al., 2007).

Dialectical Behavior Therapy, which was first validated for suicidal women who met criteria for BPD, is a treatment that has become widely used in both inpatient and community personality disordered groups. DBT combines standard cognitive behavioural techniques for emotion regulation and reality-testing with concepts of mindful awareness, distress tolerance, and acceptance largely derived from Buddhist meditative practice.

DBT is the first therapy that has been experimentally demonstrated to be effective for treating BPD (Linehan et al., 1991; Linehan & Heard, 1994), however this has been predominantly with outpatient females, leaving its effectiveness within other settings and with other client groups relatively unknown. Despite this, DBT is becoming increasingly facilitated within inpatient settings, which in addition to the lack of evidence base raises questions as to its suitability when one of the original treatment goals was to keep people out of hospital. Whilst guidelines to adapt the programme have been developed (Swenson, Witterholt & Bohus, 2007) these have been devised by clinicians not associated with the original programme, there also being minimal research in respect of its utility within inpatient or forensic settings.

In relation to overall psychological therapies, a meta-analysis of 15 treatment outcome studies, Perry and Banon (1999) concluded that whilst there is reasonable evidence to support the effectiveness of a range of different treatments with personality disordered individuals, there is little evidence to suggest "any one type of treatment consistently demonstrates greater effects than no treatment or a comparison treatment'' (p.1318). Indeed, many suggest that the diversity of difficulties that result from personality disorder (e.g., occupational, interpersonal, social and behavioural) demand a multi-faceted and/or integrated approach to treatment which utilises a combination of different intervention strategies. (Livesley, 2001b; Magnavita, 1999; Millon, Everly & Davis, 1993; Ryle, 2001). There is little doubt that both identifying and treating criminogenic and clinical needs of personality disordered offenders requires creativity and flexibility on behalf of the clinician.

In addition to the dispute over the varying treatment options, for many years there has been extensive debate regarding the extent to which personality disorders should be considered treatable (Livesley, 2001a). Not only are there differences between individual practitioners and professions regarding opinion about the treatability of AXIS 2 disorders, there are also important legislative differences between jurisdictions on whether agencies have a legal right to treat these offenders if they are deemed 'untreatable' by practitioners. The debate is a socially important one - if personality disorders are considered 'treatable' then mental health agencies potentially have a much greater role to play in the alleviation of distress caused by the disorder on the individual and third parties.

In relation to this previously 'untreatable' subgroup, mental health professionals working with this population have a difficult task. The literature relating to what works in the treatment of severe personality disorders is thin indeed, particularly when the focus is on patients who also have offending histories which indicate they are at a high risk for violence. Personality disordered offender's present significant clinical issues relating to both their

disorder and nature of their offending, with it being critically important to accurately identify factors functionally related to both personality pathology and risk. These factors need to be incorporated throughout interventions, case management and risk appraisal of personality disordered offenders, all processes discussed within this thesis.

1.2 Purpose of this thesis

With there being limited research in relation to personality disorder in terms of frequency, treatment efficacy or prediction of risk, this thesis examines elements of assessment, treatment and management of violence within differing personality disordered offender groups.

This investigation begins in Chapter 2 by reviewing the current literature regarding the effectiveness of Dialectical Behaviour Therapy with inpatients diagnosed with borderline personality disorder. As previously stated the intervention was initially developed and evaluated as an outpatient treatment programme for chronically suicidal women who met criteria for borderline personality disorder however, within the last decade, several adaptations of the programme to alternative settings or patient groups have been developed, albeit with little evaluation of the generalisability of the programme when it is adapted in these ways. At present there appears no other review examining its application within an inpatient setting. This review therefore asks the question of whether community DBT for self harm and aggression has the potential to translate to inpatients with PD. It is felt it is only when this is established can its suitability for use within forensic settings be further discussed.

One of the assessments becoming increasingly used within personality disordered services to assess risk of future violence is the HCR-20. The prediction of risk has always been pivotal to secure services, it often meaning the difference between an individual's

release or their continued detention. Chapter 3 reviews the available literature regards the HCR-20's validity and reliability, more pertinent to this thesis asking whether its application within inpatient settings is viable in appraising both inpatient violence and future risk of reoffending.

The HCR-20 is one of the measures in the battery of assessments used to assess violent risk in the DSPD unit at Rampton Hopsital. The scores generated for each individual by their clinical team are used in the empirical paper in Chapter 4, in which a representative sample of DSPD diagnosed inpatients are compared with non DSPD personality disordered inpatients (also detained within Rampton Hosptial) on a number of risk related factors. By doing so, this chapter examines the validity of the DSPD concept, asking whether there is an increased risk of imminent violence from this specific group. There does not appear to be any research to date to ascertain this.

The importance of accuracy within risk prediction is highlighted within the single case study contained in Chapter 5. The offender discussed has a diagnosis of learning disability and borderline personality disorder, being detained within a low secure setting due to a long history of violent offending. The intervention plan was to target the aggression and self harm the patient displayed on an almost daily basis, with the chapter focusing on whether treatment for individuals with a learning disability and personality disorder can successfully incorporate both elements of the diagnosis.

On the whole this thesis examines both the problematic nature of the assessment and treatment of personality disordered offenders and the limited research body currently available. The implications of this thesis are further discussed in Chapter 6.

Chapter 2

A Literature Review Following a Systematic Approach; How effective is Dialectical Behaviour Therapy with Borderline Personality Disordered Inpatients?

2.1 Abstract

This systematic review aims to evaluate the clinical effectiveness of dialectical behavioural therapy for inpatients with a diagnosis of borderline personality disorder. It contains a literature review following a systematic approach of randomised control trials and cohort studies which evaluate dialectical behavioural therapy with both male and female psychiatric inpatients on a range of measures of emotional regulation and self injury. Four databases and one gateway were searched, contact being made with three experts in the field and hand searching of reference lists was completed.

Searches identified 1337 hits of which 1321 were irrelevant or duplicates. Two articles were unobtainable; therefore 14 were assessed using the PICO. Of these, six were excluded leaving eight studies reporting relevant outcomes. Four employed a randomised controlled trial with the remaining four utilising cohort samples. Five of the eight studies employed experimental and control groups. All the studies used standardised measures to report effect of intervention with three also employing self report measures to account for self injury frequency. Quality assessment was completed to acquire a measure of quality and accuracy of recording for each study. One study established an effect size too small to be considered significant (.19). Two papers reported small effect sizes (.25, .40) and a further three demonstrated a medium effect size (.64, .66, .69). The two remaining studies did not detail effect sizes but reported positive and significant differences between DBT and

treatment as usual (TAU) at the $p < 0.01$ level. However, these results should be considered with caution as there were substantial methodological differences between studies.

Overall, the impact of Dialectical Behaviour Therapy on inpatients with borderline personality disorder appears to be promising. Whilst some studies show positive (though not large) effects, it is often hard to attribute change exclusively to the intervention. Research in this area is laden with methodological complications, including small sample sizes, a lack of appropriate control and comparison groups and varying conceptual definitions. Future research would benefit from implementing more rigorous methodologies to establish the true efficacy of this therapy for patients with borderline personality disorder who are restricted to an inpatient environment. This would enable the appropriate allocation of this time and resource intensive intervention within forensic secure settings.

Keywords; Borderline personality disorder; Dialectical Behaviour Therapy; Dialectical Behavior Therapy; Deliberate self harm; Para suicide; Self injury; Emotional regulation; Effectiveness; Inpatient; Treatment.

2.2 Introduction

2.1 Borderline Personality Disorder

Borderline personality disorder (BPD) is a severe and complex mental disorder characterised by invasive instability in moods, interpersonal relationships, self image and behaviour. In the DSM-IV system (APA, 1994), the criterion for a diagnosis of BPD is five of the following nine symptoms;

- Inappropriate intense anger or difficulty controlling anger
- Chronic feelings of emptiness
- Affective instability
- Transient stress-related paranoid ideation or severe dissociative symptoms
- Identity disturbance; striking and persistent unstable self-image or sense of self
- Recurrent suicidal behaviour, gestures or threats; or self mutilating behaviours
- Impulsivity in at least two areas that are self damaging that do not include suicide or self injurious behaviour
- Frantic efforts to avoid real or imagined abandonment
- A pattern of unstable and intense interpersonal relationships characterised by alternating between extremes of idealisation and devaluation

This means two individuals may meet criteria for the disorder with only one of five symptoms in common. The implication of this for both research and clinical practice are considerable. Some treatments, Dialectical Behaviour Therapy (DBT) included, were initially developed for deliberate self harm, which, although frequently found, is neither a prerequisite nor a sufficient sole criterion for a diagnosis of BPD. The broad range of symptomology has resulted in interventions for BPD that are complex and multifaceted, in turn creating problems in interpreting results and distinguishing reliable levels of post treatment change.

2.2 Treatment for BPD

As well as meeting the above criteria, all psychological therapies rely on a minimum readiness from the service user to attend regular sessions and develop an effective therapeutic relationship with the clinician. For BPD diagnosed individuals, who often have problematic drug and/or alcohol reliance, coexisting mood disorders, psychotic symptoms or impaired psychosocial functioning this level of engagement may not be achievable. This has resulted in individuals diagnosed with BPD being described as amongst the most challenging population in the mental health system (Miller, Eisen, & Allport, 1994).

Prolonged treatments often drawn out by cyclical patterns of disengagement have significant cost and resource implications for service providers. This is amplified when taking into consideration prevalence data for the UK. Examination of psychiatric morbidity in private households suggested the prevalence of BPD as being 7 per 1000 at the time of the study (Office for National Statistics, 2000). In a primary care trust of 500,000 this would mean 3500 individuals diagnosed with BPD would potentially go untreated. In turn, this increases the risk of harmful behaviours not just to the diagnosed individual but also society, given the impulsive and often erratic nature of the behaviour of individuals with BPD.

Of particular relevance to this review is the study completed by Singleton et al. (1997) which reported the psychiatric morbidity amongst prisoners in the British prison system. In an incarcerated sample of 3563, they found the prevalence of BPD was 23% and 20% for female and male prisoners respectively. Singleton and colleagues also quoted the overall prevalence of personality disorder within the prisoner population as 78% for males and 50% for females. The highly impulsive nature of BPD has led offending behaviour to be often seen as a co-requisite to this disorder and therefore its treatment is often linked to reducing recidivism.

2.3 Dialectical Behavior Therapy

Different psychological interventions for BPD have many factors in common, such as a high level of structure, consistency, theoretical coherence, positive engagement processes and the need to take a flexible and individualised approach to care. Within these general principles, several specific therapies have traditionally been applied to and developed for use with BPD. One of these, DBT, was initially developed and evaluated as an outpatient treatment programme for chronically suicidal women meeting the criteria for BPD. Within the last few years, several adaptations have been developed, though its content and structure are universally similar due to the specialised training and treatment manual devised by M.M Linehan (1999).

DBT is based on a biosocial theory of personality functioning. The major premise is that BPD is primarily a dysfunction of the emotion regulation system, resulting from biological irregularities combined with certain dysfunctional environments. Under this premise Linehan associates the characteristics associated with BPD resulting of, and thus secondary to, the fundamental concept of emotional dysregulation, behaviours associated with BPD serving to regulate an individual's feelings.

Invalidating environments during childhood are thought to contribute to the development of emotional dysregulation, also failing to teach the child how to label and regulate arousal, how to tolerate emotional distress, and when to trust their own emotional responses as reflections of valid interpretations of events. As adults, borderline individuals adopt the characteristics of the invalidating environments. Thus, they tend to invalidate their own emotional experiences, look to others for reassurance, and oversimplifying the ease of solving life's problems. This oversimplification often leads to unrealistic goal setting, and self hate and shame following the inevitable failure to achieve these goals. Whilst recognising

not all individuals diagnosed with BPD will experience the full range of difficulties, DBT was devised to incorporate all the above mentioned deficits.

The intervention is composed of distinct stages of treatment to acknowledge the range of difficulties experienced. The first of which aims to assist the client with developing motivation to stay in treatment and achieve behavioural control over self destructive urges. Patients move to the second stage (emotional experience and reprocessing of past trauma) when the therapist and patient agree that behavioural control has been achieved. Preceding this, weekly individual sessions, in addition to a weekly psycho educational and skills training group are offered, ideally over a period of 18 months. The key principles of treatment include moving flexibly between acceptance and validation and behavioural change strategies. This includes behavioural analysis, solution analysis and strategies, skills training, contingency management, exposure, cognitive modification and psycho education. The DBT package also includes weekly supervision and consultation meetings for the therapists who work as a team, and telephone consultation where a designated therapist is available to patients outside of office hours for crisis intervention if this is thought relevant to the service.

2.4 DBT within inpatient settings

As previously discussed, DBT was developed as an outpatient treatment approach for individuals with BPD. The overarching goal for any DBT team would therefore be to help clients build community based lives that feel worthwhile and fulfilling, minimising the chance of inpatient hospitalizations. If one of the goals of therapy is to keep people out of inpatient units, this leaves the suitability of the programme for such environments questionable, there being limited research in respect of its utility within an inpatient setting.

This has not stopped it being facilitated within both secure and non-secure inpatient services, with a number of issues potentially affecting its efficacy. Firstly, even though skills

can be acquired and problems solved during inpatient admissions, it is far less likely these skills and solutions will effectively generalize to where they are needed in outpatient life. Secondly, if hospitalization becomes a strategy of choice for coping with distress, it can stand in the way of exercising and strengthening other more adaptive strategies for surviving a crisis and building a life. Thirdly, admission can interrupt outpatient treatment relationships and other supports that might actually be strengthened if brought to bear on that crisis. Forth, inpatient units often bring the patient into contact with an overload of stressors that can have nothing to do with his or her care and with multiple examples of dysfunctional coping strategies that can be learnt from peers. Fifth, because a crisis admission can bring immediate relief to an individual, a therapist, a team or a family, it can actually reinforce the very behavioural patterns that prompt an admission. The impression that an individual's hospitalization has prevented their suicide can paradoxically increase the likelihood of their future suicidal behaviours that prompt hospitalization. For certain individuals, suicidal behaviour and hospitalization can become a way of life that is difficult to change. On the other hand, a well-timed hospital treatment can (1) save a life, (2) interrupt an escalating crisis, (3) re-motivate a beleaguered patient, (4) provide respite and time consultation for an burnt out outpatient team, (5) bring a new perspective to diagnosis and treatment, (6) allow for a significant medication trial to occur.

In relation to the specific therapy being discussed, a DBT inpatient programme can allow for the following;

- A clear and compassionate orientation for the client regarding their disorder.
- An unusually detailed behavioural chain analysis leading to an expanded case formulation and understanding of behaviours.
- An intense review and practice of selected DBT skills.

- Safe processing of emerging trauma memories that lead to dangerous dissociative episodes.
- Review and repair of an unsuccessful outpatient therapy.

Whilst the above lists shows possible benefits to the implementation of DBT within an inpatient setting, there is still no denying the typical features of DBT are a mismatch with typical features of inpatient settings (Swenson, Sanderson, Dulit, & Linehan, 2001). DBT is based on the collaborative relationship between equals, but the hospital setting results in an unequal relationship between all staff and patients. In community based DBT, therapists consult with patients regarding how best to interact with other professionals, in contrast hospital in-patient settings often resulting in staff members joining together, patients care being managed and shaped with a multidisciplinary team approach.

This power difference is no more evident than in forensic inpatient settings, patients here also being more likely to attend sessions to progress through the mental health system rather than for personal treatment gains. Despite this, it is envisaged the biosocial theory fits well with forensic populations, invalidating environments also leading to criminogenic related behaviours such as impulsivity, behavioural dyscontrol, irresponsibility and angry outbursts (Black, Baumgard, & Bell, 1995; Hare, 2003). Amongst other goals, DBT directly targets dysfunctional behaviours, such as emotion regulation, problem solving, and self management therefore initial thoughts would suggest the programme as being suitable for incarcerated offender groups.

In respect of expected outcomes, it is envisaged these will be largely similar regardless of setting. Within the community, whilst the ultimate goal is about improving quality of life and minimising hospitalizations as stated above, the more specific behavioural

targets focus on reducing both aggressive outbursts and self harm. In principle, for DBT programmes facilitated within forensic settings these expected outcomes are the same, a reduction in self harm and aggression being a measure of treatment change. This is not dependant on the population, as the same reduction in behaviours is expected whether DBT is applied with forensic learning disability populations`, personality disordered groups or the DSPD sample that is studied further in chapter 4.

Ultimately, from a theoretical perspective there appears little reason why DBT cannot be successful within forensic settings, but when looked at from a practical viewpoint e.g. skills transference and patient-staff dynamics its successful application becomes questionable. Despite DBT becoming a prominent treatment model in a number of forensic settings, there is minimal research in respect of this. As it is would have been more pertinent to this thesis, this study would have preferred to include only forensic samples however the limited numbers of papers made this not viable, (only one paper being included in this review). This review therefore attempts to evaluate the effectiveness of DBT within any inpatient population diagnosed with BPD.

Such a review is thought necessary to examine its suitability for its growing use within secure mental health services, with the hope more forensic related papers will be published with its increased application. Such an evaluation will not only examine its effectiveness within an inpatient setting but point to possible strengths and weaknesses in the therapeutic opportunities available to its application within the forensic environment. This in turn may provide scope for both improving treatment and the appropriate use of resources, if the highest level of rehabilitation and the lowest levels of re-offending are to be achieved.

2.2.1 Existing Review Assessment

Preliminary searches for existing systematic reviews and meta-analyses were conducted in Cochrane Library, Campbell Collaboration, PsychINFO and MEDLINE, covering biomedical, health-related, science and social-science literature. The searches returned one result of a systematic review conducted by Brazier, Tumar, Holmes, Ferriter, Parry, Dent-Brown and Paisley (2006). This review was assessed using the existing Review Assessment Form in Appendix A, obtained from the Centre of Reviews and Disseminations (CRD, 2008). They reviewed nine RCT's and one non RCT of moderate to poor quality to examine a range of psychological therapies (including DBT) for borderline personality disorder, though predominantly this was from an economic and cost effectiveness perspective. Brazier and colleagues reviewed a wide range of bibliographic databases stating full date ranges for all searches. They also attempted to make contact with authors and search relevant reference lists. Quality assessments were conducted on all RCT'S using the Critical Appraisal Skills Programme (CASP) checklist (http://www.phru.nhs.uk/casp/rcts.htm). The non randomised study was reviewed with respect to validity using the CASP checklist for cohort studies. The overall quality of the economic literature within the Brazier et al. Review (2006) was assessed according to the guidelines for authors and peer reviewers of economic submissions to the British Medical Journal (Drummond & Jefferson, 1996**).**

2.2.2 Aim of Previous Review (Brazier et al., 2006)

The aforementioned systematic review aimed to assess the available evidence on the cost effectiveness and psychological effectiveness of psychological therapies including DBT for borderline personality disorder (BPD).

2.2.3 Objectives of Previous Review (Brazier et al., 2006)

The objectives of the existing review were as follows;

1. To determine which psychological therapies for borderline personality disorders are most clinically effective in reducing symptoms.
2. To determine the cost-effectiveness of psychological therapies for borderline personality disorders.

2.2.4 Conclusions of Previous Review (Brazier et al., 2006)

The above mentioned review led the authors to conclude that ‘’the overall efficacy of psychological therapies in the treatment of borderline personality disorder is promising, however at this stage the evidence is inconclusive (p. 53).’’ However, they stipulate the review’s results should be interpreted with caution as not all studies were primarily targeting borderline symptoms, in addition considerable differences were found between studies in terms of patient characteristics, treatment settings, comparison groups and outcomes. The trials on which they were based were often poor quality, using a mixture of methods for evaluating both cost and treatment outcome, and are therefore of doubtful generalisability. This combination of results, elevated levels of uncertainty and methodological limitations provide at best only partial support for the cost-effectiveness of DBT, however, they suggest it could have the potential to be a cost effective treatment if implemented as originally planned. They highlight the need for considerable research in this area.

2.3 Method

2.3.4 Inclusion/Exclusion Criteria

The inclusion/exclusion criteria to allow papers included in the study to be further examined, was the result of extensive scoping searches of a number of sources that contain existing reviews and research related to the topic. In a pursuit to represent the most consistent and valid conclusions, only RCTs, quasi-experimental and cohort studies were included. Scoping

searches were completed initially to develop and confirm the inclusion criteria. Searches were completed in Cochrane CENTRAL, Campbell Collaboration, PsychINFO, HTA and MEDLINE. Inclusion criteria were devised as follows;

Population – Adult inpatients (18 +) with BPD diagnosed according to DSM-III/DSM-III-R, DSM-IV or ICD – 10 criteria for BPD. Where patient's diagnoses were assumed or formed on the basis of clinical judgement without reference to nosological systems the papers were excluded. To increase the chance of samples being most suitable for DBT, diagnosis could also not include dual diagnosis or co-morbid axis one disorders, as is recommended for any individual referred to the DBT programme (Linehan, 1993).

Intervention – Dialectical Behaviour Therapy (Completion of the full programme – all four modules in both group and individual format). All elements of the programme delivered within an inpatient setting.

Comparator – No intervention control group or alternative intervention comparison group.

Outcome – Self-harm, suicide, crisis presentations to mental health or hospital service or the results of a validated assessment tool measuring of emotional regulation or aggression. Where they have been reported, effect sizes which refer to the range of measures used in each study have also been stated, all papers having used Cohen's *d* as the chosen statistic.

Study design – RCT, quasi – experimental or cohort designs.

A copy of the Inclusion Criteria Assessment Form used to assess all of the studies can be found in Appendix C.

2.3.1 Sources of Literature

For the purpose of this review electronic bibliographic databases were searched including PsychInfo (1985 to week 1 August 2009, completed on the 9th August). MEDLINE (1985 to week 1 August 2009, completed on the 9th August 2009) and Embase (1985 to week 1 August 2009 completed on the 9th August 2009).

The reference list from the previously identified systematic review (Brazier et al., 2006) was hand searched, with any additional references evaluated based on the specific inclusion criteria. Meetings were held with four experts, two of whom provided additional resources. Contact with authors was attempted via email requesting any additional studies, although none responded. In addition, attempts were made to explore 'grey' literature by searching other appropriate databases and the Internet (e.g., Google and relevant websites such as The British Psychological Society and The Royal College of Psychiatry.) All additional resources obtained were included in this review, and were subjected to the inclusion criteria previously stated. Numbers quoted in figure 1 incorporate the additional papers sourced.

2.3.2 Search Strategy

Whilst studies including official recordings of self harm (hospital admissions and official documentation) are likely to produce a better estimation of emotional regulation, it was decided research that contained self report measures of such behaviour would also be included. This was due to the small number of studies that relied solely on official recordings of self harming behaviours, making this review implausible if studies were excluded on this factor alone. However, it was acknowledged that this form of measurement could potentially increase the risk of bias and distortion.

Searches were completed on three databases. All were restricted to English language due to time constraints in obtaining and translating foreign studies. Unpublished work was excluded from the review due to time constraints of obtaining original articles. It is acknowledged that this will have introduced a publication bias, which must be considered when evaluating the findings of this review. Whilst the basic search terms were the same, they were modified depending on the requirements of the specific databases. (see Appendix B for search syntax.) Due to lack of resources, all the searches and reviews were completed by the author, it being acknowledged validity would have been strengthened if this process had been completed by multiple reviewers, assuming a method of consensus were to have taken place.

2.3.3 Search Terms

(Borderline personality disorder OR BPD OR emotionally unstable personality disorder

AND

(Inpatient) OR (patient) OR (prisoner) OR (sectioned) OR (incarcerated) OR (service user) OR (offender) OR (client)

AND

(Dialectical Behaviour Therapy or treatment OR Dialectical Behavior Therapy or treatment) OR (intervention) OR (Cognitive Behavioural Therapy or Cognitive Behavioural Therapy)

AND

(Self harm) OR (self mutilation) OR (self injurious behaviour) OR (parasuicide) OR (emotional regulation)

AND

(Rehabilitation) OR (relapse) OR (hospitalization) OR (crisis) or (emergency) or (admission)

2.3.5 Study Selection

The full texts of all plausible studies identified by the searches were ordered. One was not locatable through the British Library. The author reviewed all of the studies for inclusion criteria and relevance. See Figure 1 below for the process of study selection and Appendix D for a list of excluded studies and the reason for their exclusion.

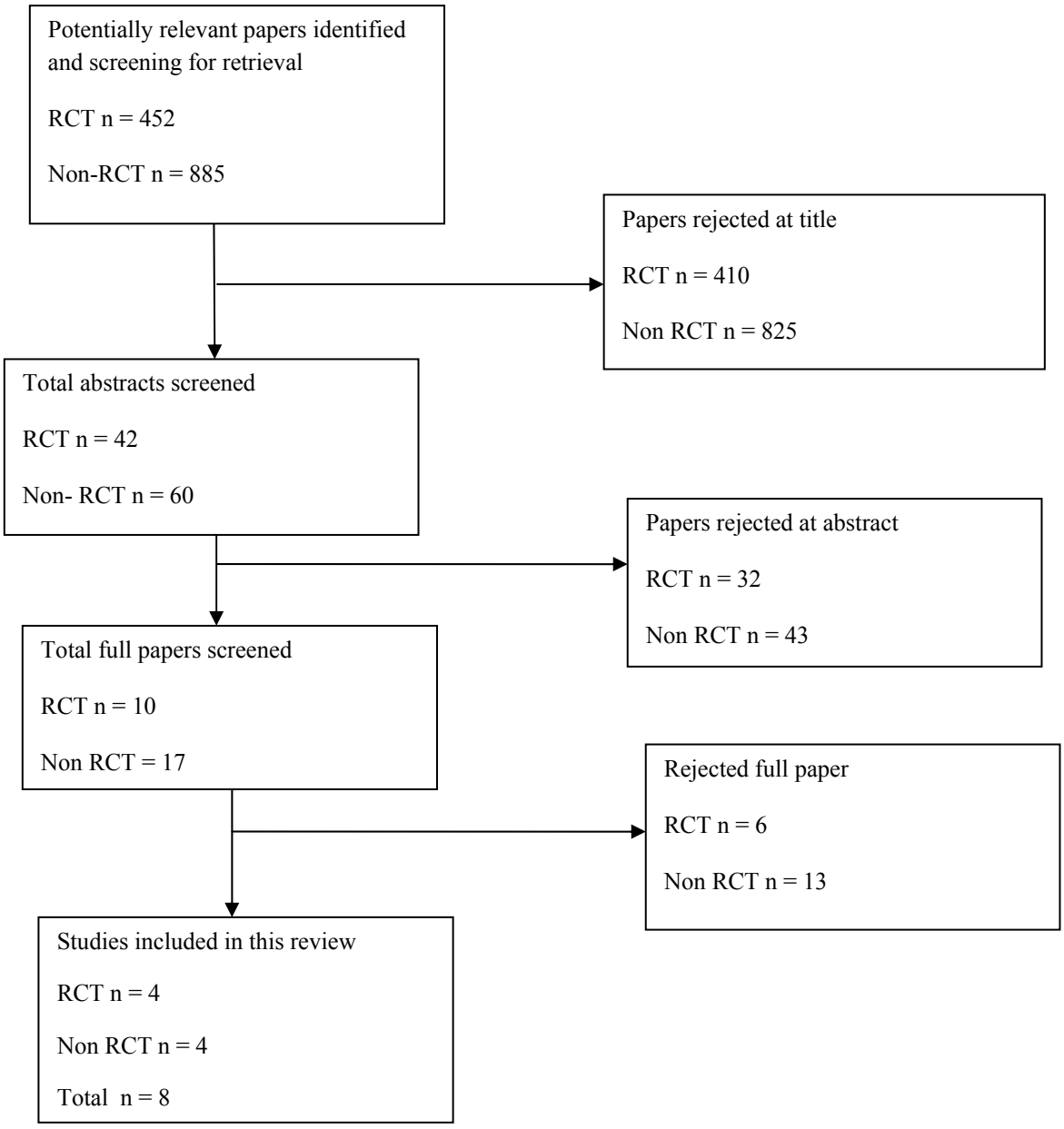


Figure 1 Summary of study selection and exclusion

2.3.6 Quality Assessment

Having excluded studies that did not meet the criteria for inclusion (n= 19), quality assessment was completed on included studies (n= 8) using two steps. Firstly, threshold criteria were applied, which included clear descriptions of the population, the intervention, the comparator group and the outcome measure. Secondly, studies were assessed for quality using the forms in appendix E and F. Quality assessments were conducted on all RCTs using the Critical Appraisal Skills Programme (CASP) checklist (http://www.phru.nhs.uk /casp /rcts.htm), additional items being devised or amended and based on the research field and study type. The CASP appraisal tools are based on the guides produced by the Evidence Based Medicine Working Group, a group of clinicians at McMaster University, Hamilton, Canada, who have backgrounds in public health, epidemiology or evidence based practice. In order to develop the individual assessment tools CASP staff undertook a review of the literature on methodological issues relating to relevant studies and on scales and checklists for critical appraisal of those studies. The tools were designed to address the epidemiological principles behind the study types with particular attention to assessing study validity.

Whilst other quality assessment systems are recognised as being available, for example The Maryland's Scientific Methods Scale (Sherman et al., 1997), the CASP system was utilised to allow possible comparisons with the Brazier et al. review to be made, Brazier and colleagues having also used this method of assessment. The CASP quality assessment forms also include a comprehensive range of questions about the population selection, study design, allocation to groups, data collection procedures and confounding factors or bias that may explain the findings. Studies were scored as follows;

0 Does not meet the criteria

1 Partly meets the criteria

2 Fully meets the criteria

Each study was given a quality assessment score by summing the scores on each criterion. Quality assessment was completed on all studies (n= 8) by the author.

2.4 Data Extraction

For each study the following data were extracted;

- Demographic characteristics of the overall sample at the start of the research
- Number of participants on each condition
- Study design
- Unit of allocation to group
- Number of conditions
- Completion of quality assessment
- Intervention setting, duration, delivery style and programme type
- Mediating variables
- Staff facilitating the interventions including specialist training
- Variables measured at baseline, post intervention and follow-up
- Validity and reliability of the measures
- Attrition and statistical analysis

Where results from the same intervention have been included in more than one paper, the information was only reported once. See appendix G for an example of a Data Extraction Sheet.

Table 3 summarises the significant characteristics of the eight studies included in this review, allowing for an easy comparison across papers. The information contained within the table has been chosen based on its relevance to the aims of this review. Table 3 highlights the

variation in assessment tools, in addition to differences in both types of treatment and follow up periods. This serves to emphasise the inconsistencies across the studies within the review.

Table 4 examines the quality of the studies (either RCTs or cohorts) included in this review. The recruitment to group was largely acceptable and most of the studies included self reporting for the measure of self injurious behaviour. Follow up periods varied largely from 1 to 15 months. Effect sizes, where reported are mixed and some quality assessment scores for the RCTs are bordering on poor.

Table 3
Characteristics of included studies

Authors	Original Sample Size	Average Hospital Stay	Treatment type and length	Follow-up period	Pre and post assessment measures	Pre and post scores
Bohus et al (1999)	Treatment n = 24 females Dropouts n = 2	3.9yrs (SD = 3.3)	1xweekly group session 3mths overall	1mth	Lifetime parasuicide count (Linehan & Comtois, 1994) The State Trait Anger Expression Inventory (STAXI) (Spielberger) Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961)	LPC Pre 24.6 Post 14.6 STAXI Pre 72.9 Post 68.5 DBI Pre 31.3 Post 23.2
Bohus et al (2003)	Treatment n = 31 females Dropouts n = 9	177days (SD = 57)	1xweekly group session 1xweekly 1-1 session 3mths overall	4mths	Lifetime parasuicide count (Linehan & Comtois, 1994) The State Trait Anger Expression Inventory (STAXI) (Spielberger 1996) Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961)	LPC Pre 7.62 Post 6.61 STAXI Pre 6.43 Post 6.13 BDI Pre 31.3 Post 20.9
Evershed et al (2003)	Treatment n = 8 male No dropouts	10yrs (SD = 9.75)	1x weekly group session 18mths overall	6mths	The State Trait Anger Expression Inventory (STAXI) (Spielberger 1996) Novaco Anger Scale (NAS) (Novaco, 1980)	STAXI Pre 18.63 Post 17.00 NAS Pre 32

						Post 30.38
Swenson & Sanderson (2001)	Treatment n = 36 women Dropouts n = 13	1.8 yrs (SD = 1.1)	1x weekly group session 1x weekly 1-1 session 6mths overall	6mths	The Beck Hopelessness Scale Reported self injurious behaviours	Self injury Pre 12.71 Post 7.82 Beck Scale Pre 10.57 Post 10.04
Low & Jones (2001)	Treatment n = 17 women Dropout n = 7	4.5yrs (SD = 3.0)	1x weekly group session 1x weekly 1-1 group session 12mth overall	6mths	The Beck Hopelessness scale Beck Scale for Suicide Ideation Self injurious behaviour	BHS Pre 15.3 Post 12.2 BSSI Pre 26.0 Post 15.4 Self Injury Pre 7.9 Post 0.8
Koons et al (2001)	Treatment n = 18 Dropout n = 1	Not reported	1xweekly group session 6mths overall	6mths	Self injurious behaviour - frequency Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961)	Self Injury Pre (3mths) 5.1 Post 0.4 BD1 Pre 22.8 (11.1 Post 13.4
Kroger et al (2004)	Treatment n = 50 44 women 6 men Dropout n = 3	Not reported	3x weekly group sessions 12mths overall	15mth	The Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961)	Beck Scale Pre 31.96 Post 25.08

Van Den Bosch et al (2004)	Treatment n = 58 women Dropout not reported	Not reported	1xweekly group session 1x 1-1 weekly session 12mths overall	6mths	Lifetime parasuicide count (Linehan & Comtois, 1994) Self injurious behaviour (frequency BPD Severity Index (BPDSI) (Arntz et al., 2003)	LPC Pre 36 Post 19 Self Injury Pre 48.9 Post 10.9 BPDSI Coefficient – 0.10780

Table 4
Quality of Included Studies

Authors	Study design	Recruitment Procedure	Comparator	Allocation to group acceptable	Follow -up period	Attrition Rate	Quality Score
Bohus et al (1999)	Cohort	Clinical Team	No comparator	Yes	1mth	92% completed treatment	20/30 10/12
Bohus et al (2003)	Cohort	Clinical Team	Treatment as usual in the community	Unclear if groups even at the start	4mths	71% completed treatment	21/30 11/12
Evershed et al (2003)	RCT	Clinical Team	Treatment as usual	Yes	6mths	100% completed treatment	16/24 11/12
Swenson & Sanderson (2001)	Cohort	Self referral or Clinical Team.	No comparator	Yes	6mths	89% completed treatment	20/30 10/12
Low & Jones (2001)	Cohort	Clinical Team.	No Comparator	Yes	6mths	100% completed treatment	21/30 10/12
Koons et al (2001)	RCT	Clinical Team or independent clinicians	Treatment as usual psychotherapy	Yes	6mths	69% completed treatment	17/24 11/12
Kroger et al (2004)	RCT	Clinical Team.	Pharmacotherapy. (Psychiatric)	Yes	15mth	90% completed treatment	18/24 11/12
Van Den Bosch et al (2004)	RCT	Clinical Team or independent Clinicians	Treatment as usual	Yes	6mths	100% completed treatment	17/24 11/12

2.5 Descriptive Data Synthesis

Where stated in the individual papers effect sizes were reported. Within all papers in which effect sizes are reported, Cohen's *d* is used as the measure of effect. In accordance with Cohen (1988), a small effect size should be at least $d = .20$, a medium effect size $d = .50$ and a large effect size $d = .80$. Due to the range of measures of treatment change used, it was not thought pertinent to calculate those that remained outstanding as comparisons would not be able to be made between studies. Table 5 highlights the key factors from each study which may have influenced findings. Also included are possible explanations for the results.

Four of the eight studies were RCTs, all of which employed both treatment and stringent control groups. One study (Kroger, 2004) employed pharmacological treatment as the comparator. This study demonstrated a significant effect size (0.66). In addition, the paper achieved a 72% quality assessment score and 91% for clarity. The three remaining RCT'S employed treatment as usual (TAU) as their comparator of choice. Two studies (Koons et al., 2001; Van Den Bosch 2006) demonstrated medium effect sizes, 0.66 and 0.64 respectively. Both received a 92% quality assessment score and 71% for clarity.

Koons et al., (2001) found the proportion of DBT patients who reported any intentional self harm (including suicide attempt) over the three months prior to testing dropped from 50% at pre treatment to 10% post-treatment, and from 30% to 20% in TAU ($p = 0.07$). Participants in DBT changed significantly more than did patients in TAU with regards to suicidal ideation. ($p = 0.03$) and Depression ($p = 0.012$).

The remaining RCT (Evershed, 2003), demonstrated an effect size that was not statistically significant (0.19). The study received a significantly lower quality assessment score of 67% despite receiving 92% for clarity. The clarity scores for these four studies are unremarkable; given that they were RCT's and would have therefore been expected to be

transparent and comprehensive. However it is interesting to note the study with the largest effect size was the one with the poorest quality assessment score. This would suggest that the effect size might indeed be due to the poor quality of the methodology adopted, rather than a direct impact from the treatment.

Only one of the three cohort studies employed a control group (Bohus et al. 2000) which received non-specific treatment though within an outpatient setting. The study reported highly significant improvements in ratings of depression, dissociation, and anxiety within the DBT group post treatment that were not observed within the control group. This study received a quality assessment score of 71%, the highest of all the cohort studies and a clarity score of 92%. The earlier study by the same author produced both lower quality assessment and clarity scores of 83% and 66%. This earlier study also produced a smaller effect size (0.25) suggesting the lack of significant effect sizes could be again related to weaknesses in methodology.

The two remaining cohort studies both show significant effects of the intervention. They achieved similar scores for both quality assessment and clarity. Swanson and Sanderson (2001) gained 66 % for quality assessment and 83% for clarity. Low and Jones (2001) received 70% for quality assessment and 83% for clarity.

These findings lend support to the notion that the studies achieving the highest effect sizes are those with the poorest quality assessment scores. Furthermore, as recently discussed, the studies that only consider significant differences between groups and do not include individual effect sizes, or control groups are difficult to evaluate in their own right. There may also be unaccountable differences between treatment and control groups. If conditions vary greatly this tells us nothing of the treatment in its own right, in turn increasing the likelihood of both bias and threats to validity. The results of the highest quality studies

indicate larger sample sizes and longer follow up periods are needed to allow more appropriate comparisons to occur.

Table 5
Collation of details from Studies Comparing Treatment and Control Groups

Authors	Study Design	Quality Assessment	Clarity	Group	Authors claim treatment change	Potential explanation for results
Bohus et al (1999)	Cohort	20/30 (66%)	10/12 (83%)	Completers	Yes	Follow up too short for full effects
Swenson & Sanderson (2001)	Cohort	20/30 (66%)	10/12 (83%)	Completers	Yes	No control group, used only pre and post measures for one intervention to measure treatment effect.
Evershed et al (2003)	RCT	16/24 (67%)	11/12 (92%)	Completers Control	No	Unclear if groups are equal at start of study
Low et al (2001)	Cohort	21/30 (70%)	10/12 (83%)	Completers Control	Yes	Small sample size (n = 10) No control group, used only pre and post measures for one intervention to measure treatment effect.
Bohus et al (2003)	Cohort	21/30 (71%)	11/12 (92%)	Completers Control	Yes.	Limited controls for comparator group.
Koons et al (2001)	RCT	17/24 (71%)	11/12 (92%)	Completers Control	Yes	Only 69% completed treatment. Post data not taken from non completed
Van Den Bosch et al (2004)	RCT	17/24 (71%)	11/12 (92%)	Completers Control Non-completers	Yes	Drop out and non completers not reported.
Kroger et al (2004)	RCT	18/24 (75%)	11/12 (92%)	Completers Control Dropouts	Yes	Not a true control group (no rigid diagnosis criteria)

2.6 Discussion

2.6.1 Main Findings

The aim of this review was:

To evaluate the clinical effectiveness of dialectical behavioural therapy on inpatients with a diagnosis of borderline personality disorder on self injurious behaviours and emotional regulation.

The eight studies in this review provided varying support for DBT's effectiveness on self injurious behaviour and emotional regulation within an inpatient borderline personality disordered population. Six of the studies demonstrated a significant effect of the intervention, either in terms of a statistically significant difference between pre and post measures (Bohus et al., 1999; Low & Jones, 2001) or an effect size large enough to be considered statistically significant (Koons et al., 2001; Kroeger et al., 2006; Swenson & Sanderson, 2001; Van Den Bosch et al., 2004.) If clinical rather than statistical significance is considered, then one further study (Evershed et al., 2003) reports an effect size albeit small.

Overall, DBT in an inpatient population appears to have a positive effect on emotional regulation and in turn self injurious behaviour. This is inferred with caution due to the methodological flaws found within most of the studies. These findings are consistent with those of Brazier et al. (2006) whom concluded research on the clinical effectiveness of DBT on BPD symptomology is promising, though restricted due to methodological flaws and inconsistencies in both methodology and findings between studies.

2.6.2 Methodological Considerations

It is important to consider the methodological strengths and weaknesses of any review. The search strategies employed in this review were relatively comprehensive and conclusive. However, due to resource constraints it was not possible to source and translate non-English papers (of which there were a few) or to pursue contact with authors. Further resources would have allowed for more thorough searching of reference lists which due to the limited number of studies included in this review could have provided beneficial. Despite this, the previous review (Brazier et al., 2006) completed more in depth and detailed searches yet did not source any additional studies.

The literature sources selected were those deemed most suitable for the focus of the review although again with additional time, other databases might have produced further references. Obtaining a copy of the previous systematic review (Brazier et al., 2006) was extremely fruitful and guided the author in a number of useful ways. However, the pre-existing review differed in that they utilised a number of researchers to carry out extensive searches of reading lists and grey material. In addition, they report obtaining further direct guidance from a number of the papers authors.

When compared to the previous review (Brazier et al., 2006) the present review has more specific and detailed inclusion criteria, with the population being solely inpatient and without co-morbidity of axis 1 disorders and substance misuse issues, both of which are included in the previous review. Brazier and colleagues have only two inclusion criteria. Firstly, to have met diagnostic criteria for borderline personality disorder using a clinical assessment tool. Secondly, to have met the criteria for treatment, this was simply classed as a willingness to attend regular sessions.

The questions included in the quality assessment forms (Appendix E and F) were designed to address areas of bias that may have influenced the findings of the studies. The cohort quality assessment form included questions about selection bias, as with samples such as those examined here, participants are often not matched prior to entering the research. Measurement bias was considered in terms of the outcome measure and the measurement of exposure. The influence and consideration of confounding factors such as severity of symptoms and previous treatment remains largely untested. As well, short follow-up times may not accurately represent the longevity of change. This is particularly salient in this review because short term cessation of self injurious behaviours may not be representative of long-term habitual change.

The experimental quality assessment form (Appendix E) included similar questions to the cohort form, but focused less on selection bias given that to qualify as experimental, group allocation must have been validated. This form questions the consistency between groups, the strengths of the findings and if attrition was dealt with adequately to avoid attrition bias. The experimental quality assessment form by virtue of its highest level in the scientific ladder requires less intrusive questioning about its rigorousness.

Brazier et al., (2006) completed a thorough review of the literature though did not include copies of their quality assessment forms. Due to noted differences in the populations examined and more stringent inclusion and exclusion criteria, a comparison of the quality assessment between this review and Brazier et al.'s review cannot be completed

2.6.3 Interpretation of the findings from the Present Review

Randomised control trials elicit the most valid and reliable data because of the rigorous methodologies employed and the elimination of considerable bias. Only half of the studies in this review were RCTs, the remainder employing cohort study designs. The measurement of

self injurious behaviour is in terms of potential consequences (i.e. serious harm or death) considered high risk. Therefore, some consider it unethical and dangerous to employ an RCT, where the most serious self injurers may not be allocated to a treatment intervention. For this reason, it is understandable why studies often do not employ control or comparison groups. For similar reasons, researchers often recruit only those individuals who have been referred for treatment, or compare those who have already been treated with those who were not referred, treatment dropouts or those who attended comparison interventions. However, such studies often introduce selection bias with groups often not being matched at baseline and therefore, any effect size from the intervention cannot be directly accounted for by the intervention. This is most noticeable in reference to treatment dropouts or rejects, where there are likely to be significant motivational and personality differences between groups making direct comparisons invalid.

Differences will also be noted in the patients' motivation to engage in treatment, as despite being sectioned under the mental health system, there will undoubtedly be benefits other than personal for completing such an intervention (e.g., premature discharge or moving to a lower secure environment). There will also be the issue of previous psychological input, some patients having already participated in therapeutic groups or individual therapy, their motivation to engage being likely to vary from those new to the criminal justice or mental health system. Therefore all patients' presentations are heavily dependent upon their individual experience.

In addition, variance was found in respect of the therapeutic settings examined in these studies. Despite all being inpatient communities, there was a mix of clinical and forensic environments with varying degrees of security within this. Because there is not a scale of severity of symptomology for BPD it was assumed those in a high secure environment had more entrenched disorder traits and likely to be initially more resistant to

treatment, therefore possibly showing a lesser effect size. All of these factors could impact the outcome and deviate from the findings being attributed solely to the intervention.

Inconsistencies in relation to the frequency and delivery of the intervention are also problematic introducing additional bias to the findings. Although one therapeutic approach was employed (DBT), the length of delivery both on an individual level and full programme basis varied greatly, some groups having received 1-1 individual sessions, other sample groups only receiving the group component of the programme, albeit the majority receiving both, as stipulated in the manual. One might question, therefore, if these studies are comparable given that each approach brings with it its own bias.

The use of self report for any measure is always controversial, with differing opinions about the reliability of the data it elicits. Self reports of self injurious behaviour in the personality disordered population are considered to present an over-representation of its actual occurrence (McCann & Ball, 2000). The studies that used self injurious behaviour as a measure of emotional regulation attempted to eliminate this by only using official documentation of parasuicidal acts (e.g., hospitalisations and nursing note entries). This is by no means a guarantee of being a true and factual representation of such behaviour. Whilst relying on official records brings its own bias, it is beyond the scope of this review to assess the reliability and validity of official record systems and they are assumed accurate. Increased accuracy of self report can be achieved with psychometric measures, which have been psychometrically tested for reliability and validity. Some studies in this review employed psychometric measures, although a general lack of consistency in which tools and at what points they were administered makes comparisons tenuous.

Measurement bias also requires consideration in the context of this review. Whilst validated scales were used for pre and post measures, there was a wide variety of differing

tools employed. Of the eight studies examined, seven different psychometric measures were utilised. Furthermore, both official and self disclosures of self injury were used in four of the studies. Different assessments are likely to have different criteria and methods for recording information, also measuring differing concepts with varying relation to DBT.

Bias is further exacerbated when comparing the definitions of self injury employed within the studies in this review. Two studies defined it as an act that threatens life, one as an act that requires hospitalization, another reporting it as cutting, inserting or swallowing. Clearly, one of the main difficulties with research in this area is a lack of agreement on a solid definition of one of the major measurable outcomes of interest, making direct comparisons between studies almost impossible.

The attrition rates in the studies within this review are inconsistent. Whilst one study incorporated statistical analysis to adjust for attrition rates, two others attempted to include all of the participants in the final analyses in an attempt to avoid distortion. However, the nature of the research considered in this review, where follow-up is often 12 months and often involves patients who have been released or relocated to another hospital, means that attrition cannot be fully avoided. Further to this, different studies employed different definitions of attrition. For example one study stated that attendance should be 75% whilst another stated a patient could not continue if they had missed two consecutive sessions.

Bias was also likely in some trials owing to a lack of blind outcome assessment, unclear assessment, unclear concealment, unclear allocation concealment and high dropout rates. Most trials included only women or predominantly women, again limiting their generalisability. The issue of gender is of major significance in this review as the ONS survey found lower rates for BPD in women (4 per 1000 women compared with 10 per 1000 men; ONS, 2000). This discrepancy may reflect differences in sampling and instrumentation, and it

is possible that the excess prevalence in women has been overestimated in some studies. An implication for research is that findings from intervention studies with all women samples may not be able to be generalised to the population as a whole.

Finally the generalisability of the findings and their applicability to UK populations requires consideration. Three of the studies were conducted in Germany, one in the Netherlands, two in England and two in America. Whilst all of these countries may have a mental health system, there may be differences in the ways in which both the mental health and the judiciary services interact and work together. This may in turn, produce differing results in attrition and outcome.

It is beyond the scope of this review to consider all the potential cultural differences in the systems through which self injury is dealt with. However, the majority of the interventions in the studies in this review were supervised and largely implemented by psychological practitioners, namely psychologists or specially trained psychotherapists. DBT is to a large extent a manualised programme and is therefore deemed cross-cultural, with it being implementable in a range of settings. It would seem appropriate to assume therefore, the findings of this review are generalisable to other countries with similar populations and diagnostic tools such as the DSM-IV. Clinicians however need to remain cautious in the reviews findings, interpretation and their application.

Whilst DBT's application within forensic settings is becoming commonplace, little appears known about its effect on reducing offending behaviour. The findings from this review, whilst showing DBT to have positive outcomes within inpatient settings are unable to be generalised to forensic populations due to the additional criminogenic need of the patients. Although it is acknowledged that treating personality pathology will possibly have a positive effect on reducing risk, the increased implementation of DBT in forensic settings may lead to

it being seen as a offending behaviour based programme, extending it to a format for which it was not intended. More research in needed in this respect.

2.7 Conclusions and Recommendations

The findings from this review suggest there are at a minimum, small treatment effects from DBT with borderline personality disordered individuals detained within inpatient settings. The number of studies demonstrating treatment effects increases when clinical rather than statistical significance is considered, that is to say when an effect size over .20, is considered relevant. More importantly, the studies that demonstrated the largest treatment effects were largely those with the lowest quality assessment scores. This suggests the findings were related to the poorer methodologies employed, rather than a direct consequence of an effective intervention.

Research into psychological interventions for BPD has tended to comprise either uncontrolled studies, where it is impossible to fully interpret findings, or small poor-quality RCT's with high rates of drop out that have insufficient follow up. BDP is an increasingly diagnosed and co-occurring condition with a number of resource intensive therapies becoming available indicating the need for it to be a priority area for future research. RCT's of psychological therapies with a range of measures and longer follow up periods of DBT are needed. The suggested key features of future trials are:

- Where possible, compare more than one psychological intervention.
- Studies must be designed with adequate statistical power and take into account expected rates of attrition.
- Patients from a variety of ethnic and socio-economic backgrounds must be included, with an age and gender mix ideally comparable to those receiving treatment in both forensic and non forensic settings.

- The level of severity and dysfunction of symptoms and disorder must be well defined.
- The definition of 'dropout' must be standardised and its occurrence reduced where possible. Where patients drop out of therapy, considerable efforts must still be undertaken to collect data on them.
- The effects of medication must be at least considered and at best controlled.
- Given the high cost of the interventions, longer term follow ups should be undertaken to increase validity of results.
- Data should be collected by means of various outcomes, including recognition of generic measures of health related quality of life, including measures to permit comparisons across programmes.
- Research teams should include independent researchers as most studies were devised by researchers/ practitioners who developed the programme or assisted in its progress, therefore having a strong alliance to it.

It must be recognised that BPD is a heterogeneous condition, often occurring alongside other psychological co-morbidities. Research is needed to determine the relationship between BPD and co-occurring major disorders to develop an optimal multicomponent programme, which will be targeted not only to BPD-specific symptoms but also to any co-existing problems. Clinicians and researchers must reach a consensus about the conceptual definitions of relevant terms. This will then ensure all evaluations start from the same baseline, measure the same constructs and use the same tools. Until such a time, the true efficacy of this intervention on either inpatient or outpatient population will never be fully and reliably established.

Ultimately this review is good news for clinicians working within the mental health system, as patients with BPD are often considered reluctant and difficult to engage in therapy of any form. This review suggests that some of the problems frequently encountered by

people diagnosed with BPD within an inpatient setting may be amenable to talking/behavioural therapies. Several of the studies showed that the effort invested by the patient in persisting with the treatment package was rewarded by not just a decline in self injurious behaviours, but also a general reduction in anxiety, depression and number of hospital admission. However, to allow individual service users and clinicians to have full confidence in these results, the numbers of studies and sample sizes would need to increase.

This chapter has investigated and reviewed a predominant treatment model for borderline personality disorder. The next chapter investigates the overall utility of the HCR-20, a structured clinical judgement scheme that is widely used to assess risk of violence in a range of personality disordered populations. Whilst it has been shown within the empirical paper to distinguish between personality disordered populations, chapter 3 examines its reliability and validity in a range of clinical settings and populations. Suggestions are made in respect of additional research to further the measure's application.

Chapter 3

A Critical Review of the Historical/Clinical/Risk Management- 20 (HCR-20).

3.1 Abstract

The prediction of violent behaviour has long been considered one of the primary tasks in forensic psychiatry and psychology. Determining who is going to be violent and under what circumstance is instrumental in numerous decisions within clinical practice. A prominent progression in the risk assessment field has been the development of generations of models and instruments to aid decision making. This chapter begins with a brief review of this evolutionary process, detailing the shift from first generation clinical judgement to the most recent development of fourth generation assessment of risk/need and case management. Each generation's advantages and disadvantages are discussed. However, the use of any validated actuarial risk/needs assessment tool is shown to be more accurate than allowing judgments based on clinical judgement alone.

The remaining body of the chapter examines the HCR-20, a structured clinical judgement risk assessment, first published in 1995. Whilst examination of its validity and reliability show it to be effective in assessing violent risk, its practical application appears problematic, the scoring system devised to aid research, being regularly used within clinical practice to decipher and 'label' individuals levels of risk. This indicates improvements in the training of clinicians in the application of the HCR-20 is needed. Additional research in the utility of the application of the HCR-20 within personality disordered samples and UK offender groups are also recommended.

3.2 History of Risk Assessment

The evolution of risk assessment is understood through the development of successive "generations" of tools. Each generation utilized the most advanced methods of the time to predict the risk of recidivism, them having been developed to incorporate the relevant management and treatment strategies.

The first generation of risk prediction involves the assessment of risk based solely on non actuarial clinical judgement. Clinical judgement is heavily dependent upon the competence and acuity of the assessor and is therefore heavily biased and subjective. It is also difficult to replicate with the resulting predictive validity and inter-rater reliability of first generation risk assessment for general and violent recidivism being marginal at best (Andrews, Bonta, &Wormith, 2006). Additionally, Latessa (2003) found assessors using solely clinical judgement often overlooked important information while overemphasising that considered trivial by others.

Clinical judgement began to be replaced by second generation tools referred to as actuarial measures, assessors using judgement based scales to measure static characteristics. Each characteristic is given an equal weight and the total number of characteristics present in an individual are added together to produce a final score.

Although seemingly rudimentary, this generation of assessment introduced a new level of risk assessment; objective scales that focused on evidence based static risk factors (e.g., age, criminal history) and these measures are currently in widespread use. An example of a second generation actuarial assessment is the ten item static 99 (Hanson & Thornton, 2000) for use with adult male sex offenders. Although they are good predictors, these measurements provide limited information as to what needs to be done to reduce offender risk. Additional criticisms of the second generation assessments include the fact that they

focus on the assessment of a limited number of factors, minimizing the importance of case specific factors.

Third generation risk instruments, often referred to as structured professional judgement schemes still referred to static risk factors but introduced dynamic risk factors which were amenable to treatment change. Therefore, unlike second generation tools, this new generation mixed factors that an individual could modify in the future (e.g., substance use) with traditional static factors to predict risk and need. The third generation risk and needs assessments also introduced the concept of measuring both negative and positive offender change over time (Bonta & Andrews, 2006), emphasis moving from one of simple risk prediction to one of risk management, in conjunction with identifying conditions under which risk will increase or decrease. Examples of third generation instruments include the Psychopathy Checklist Revised (PCLR; Hare, 1991,1993), the Spousal Assault Risk Assessment (SARA; Kropp, Hart, Webster, & Eaves, 1995) and the HCR-20, which is discussed further in this chapter.

The shift to fourth generation assessment is defined by the further evolution of the assessment process combined with treatment/care planning. This integration creates a systematic intervention and monitoring system based on the results of a much larger series of assessed characteristics than is present in most third generation tools (Andrews & Bonta, 2007). An evidence based practice approach is used to develop best practice frameworks and assessment tools that combine risk assessment of static and dynamic factors and management practice with structured clinical judgement. Examples are the Level of Service/Case Management (Andrews, Bonta, & Wormith, 2004) and the Violence Risk Scale (Wong & Gordon, 2006), the latter being designed to assess violence recidivism, identify treatment targets linked to violence, and the individual's treatment readiness of the identified treatment

targets. This latest generation of assessments are still developing, hence both actuarial measures and structured clinical judgements still being commonplace. One of the structured clinical judgements schemes still regularly used within both research and clinical practice, the HCR-2O will now be discussed.

3.3 Introduction to HCR-20

The HCR-20 scheme for assessing violence was initially published by Webster, Eaves, Douglas & Wintrup (1995) and revised by Webster, Douglas, Eaves & Hart in 1997. It was devised on the basis of the principal development of items after an extensive evaluation of the literature. Furthermore, the HCR-20 was proposed to communicate risk via a controlled professional judgement approach.

The scoring manual advocates a multi-faceted assessment approach for the completion of the HCR-20 which incorporates a comprehensive file review, psychometric testing and clinical interview. The 20-item instrument is broken down into three subscales; Historical (reflecting the person's psychosocial adjustment and history of violence), Clinical (observations of the person's current or recent functioning) and Risk Management (risk factors that reflect the evaluator's opinion regarding the adequacy of the person's plans for institutional and community reintegration). Items are scored 0, 1 or 2 accordingly. A score of 0 indicates that the available information contraindicates the presence of the item, a score of 1 means that the available information suggests the possible presence of the item, and a score of 2 means that the available information indicates the presence of the item. This procedure uses a mechanistic approach to scoring the items in addition using clinical judgement to integrate the factors and assign an overall level of risk.

3.4 Reliability

3.4.1 Internal Consistency

Internal consistency (e.g., amount to which a range of parts of the test determine the same variables) has been calculated using Cronbach's Alpha. If the inter-item correlations are high, there is verification that the items are measuring the same fundamental construct, therefore having ''high''' or ''good'' reliability since their items measure a single one-dimensional underlying construct.

The alpha coefficients reported by Klassen (1996) using a normative civil psychiatric sample (n=75) exceeded .70, the suggested correlation coefficient to imply reliability (Kline, 2000). Douglas, Klassen, Ross, Hart, Webster and Eaves (1998) reported alpha coefficients ranging from 0.69 to 0.78 for the HCR-20 total scale and three subscales using a normative sample (n = 175 North American insanity acquittals). Belfrage (1998) reported higher internal consistency coefficients for the HCR-20 total scale, H, C and R scales in a Swedish sample of 43 (0.95; 0.96; 0.89; 0.85 respectively). In a Belgium sample Cliax, Pham & Willocq (2002) reported lower internal consistency coefficients for the HCR-20 total scale, H, C, and R subscales (0.74, 0.61, 0.47; 0.54 respectively) than evidenced in previous findings.

3.4.2 Inter-rater reliability

Inter-rater reliability (e.g., the consistency of an individual's score when rated by two or more independent markers at the same time) was calculated using Pearson's correlation coefficient. According to Cohen (1992), a Pearson correlation coefficient of $\pm$ 0.30 is considered moderate and $\pm$ 0.50 is considered large.

The correlation coefficient reported by Douglas (1996) using a normative sample of 200 North American psychiatric patients released into the community indicated large correlation coefficients, ranging from 0.72 to 0.89. Within a forensic psychiatric population, Douglas and colleagues (Douglas et al., 1998; Douglas, Ogloff & Hart, 2003) reported intraclass correlation coefficients (ICC) ranging from 0.85 to 0.90 for the HCR-20 total score. This result has been simulated in both Swedish and Dutch samples (Belfrage, 1998; Claix et al., 2002; Dernevik, 1998; de Vogel, de Ruiter, Hildebrand, Bos & Van De Ven, 2004) with coeffiecients ranging from 0.64 to 0.96.

Within a prison population, Douglas and colleagues (Douglas, Webster & Wintrup, 1996; see also Douglas & Webster, 1999) reported a Pearson correlation coefficient of +0.80 for two subscales (H and C) combined using a normative sample of 72 Canadian male offenders in maximum secure setting. Using a UK based sample (n= 104) Cooke, Mitchie and Ryan (2001) reported large correlation coefficients ranging from 0.70 to 0.92 for the HCR-20 total score and subscales in individuals incarcerated within the Scottish prison system.

3.5 Validation

Selection of included items and the development of both individual and collective scales underwent three stages of validation to facilitate the development of the HCR-20; the initial stage being evidence based (e.g., items selected based on empirical studies in the field of violence risk assessment), proceeded by internal consistency analysis and an external-criterion stage. Webster and colleagues (Webster et al., 1995; 1997) reported that this three stage approach followed by an ordered guide to violence risk assessment which conforms to an empirical model of decision making (e.g., structured professional judgement).

The HCR-20 has a set of invalidating circumstances so that only suitable profiles are marked and interpreted in accordance with the normative data and the manual. Omitted items (e.g., more than two H items; more than one C or R items; or more than five items on the HCR-20 total scale); a discrepancy in weighting of individual items (e.g., classifying an individual a set risk category based on the occurrence of a solitary risk factor); and reoccurring administration of the HCR-20 within 6 months or less, (except if there is a significant shift in risk status), all classify as invalidating conditions.

3.6 Validity

3.6.1 Concurrent validity

The HCR-20 has established strong concurrent validity (i.e., correlation with an additional assessment of the same variable measured at the same time). Douglas and colleagues (Douglas, Webster & Winstrup, 1996; Douglas &Webster, 1999) reported the HCR-20 had a high correlation with the Violence Risk Appraisal Guide (VRAG; Rice & Harris, 1995) (+0.54) and PCL-R (+0.64) when the item 'psychopathy' was removed from the HCR-20 for the analysis to avoid artificially inflating the correlation. The H scale also correlated strongly with the additional measures (+0.61 with the VRAG; + 0.54 with the PCL-R), unlike the C scale (+0.28 with the VRAG; + 0.47 with the PCL-R) which would not be expected to correlate with assessment such as these which are based on unchangeable historical items. In addition, a further study by Douglas et al. (1998) found that the HCR-20 correlated 0.61 with the PCL-R and 0.54 with the Brief Psychiatric Rating Scale (BPRS; Overall & Klett, 1992). The H scale was most strongly correlated to the PCL-R while the C and R scale were related with small effect sizes (0.75; 0.21; 0.18 respectively). Conversely, the C and R scales strongly correlated with the BPRS (0.63 and 0.59, respectively) whereas the H scale was unrelated.

3.6.2 Predictive validity

A range of studies have reported poor to moderate predictive validity of the HCR-20 for violence in both forensic psychiatric and offender samples. In a Canadian study by Wintrup (1996) using a sample of 80 male forensic psychiatric patients, both the HCR-20 and PCL-R correlated at approximately +0.30 with several measures of post discharge community violence. The HCR-20 score also predicted inpatient re-admission (+0.38) and successive psychiatric hospitalizations (+0.45). Belfrage, Fransson and Strand (2000) completed a prospective study using a male sample from two maximum security prisons (n= 41). They found that the HCR-20 total scale, C and R scales significantly differentiated between violent and non-violent groups. The H scale was not predictive of violence with the exception of the H-10 item (i.e., prior supervision failure).

More recent studies have employed Receiver Operating Characteristics (ROC) and area under the curve analyses to assess the predictive accuracy of the HCR-20. Douglas, Ogloff & Hart (2003) reported moderate to large AUC values for HCR-20 total risk judgements (low, moderate or high risk) depending on the violence categorisation (any violence AUC 0.69; physical violence 0.74; non – physical violence 0.68) in their sample of forensic psychiatric patients (n=100) released into the community. Dernevik, Grann & Johansson (2002) reported AUC's ranging from 0.68 to 0.83 for the H scale and HCR-20 total scale with respect to inpatient violence. Similarly they reported AUCs ranging from 0.79 – 0.84 for H, C and HCR-20 total score with respect to community violence in a Swedish forensic psychiatric sample (n=1625).

Doyle, Dolan & McGovern (2002) retrospectively studied the association between the H scale and inpatient violence within the first 12 weeks of admission in a male sample (n=87) in a UK based medium secure forensic setting. The authors reported AUC's of 0.70 for 'Any

Violence' and 0.66 for 'Level 1 Violence' which they categorised as physical assault against a person or any violence resulting in injury to a person. A further study by Dolan & Khawaja (2004) reported respectable AUCs of the HCR-20 total score in predicting readmission (0.85); self/collateral reports of violence (AUC = 0.76) and re-conviction (AUC = 0.71) using a UK sample of 70 violent patients discharged into the community. The AUC value for serious re-offending was found to be non significant. Again in the UK, more recently, Gray et al. (2008) reported all three subscales as being predictive of verbal aggression, property damage and physical aggression during inpatient admission (AUC's ranging from 0.73 – 0.83 respectively).

3.7 Norms

The HCR-20 was developed in North America with the majority of the evidence base for the tool's efficacy coming from within that population. In the UK there have been a limited number of small scale studies, both in terms of sample size and length of the prediction interval. Doyle, Dolan and McGovern (2002) conducted a retrospective study to determine the association between the H scale and subsequent violent behaviour in an inpatient sample of 87 (84 male/3 female) mentally disordered offenders in a UK medium secure facility. They found a moderate to large effect size for 'any violence' (AUC = .70). A retrospective study by Grevatt, Thomas-Peter and Hughes (2004) examined the HCR-20's ability to predict violence in a sample of 44 male inpatients in a UK medium secure forensic service. They deduced that the HC amalgamation (Historical and Clinical scales combined), and the H scale did not predict inpatient violence, though noted that the H scale moderately predicted incidents of violence, abuse or harassment (AUC= .72).

In addition, the HCR-20 was primarily developed on the basis of studies using male samples with further research on the psychometric properties of the HCR-20 having

predominantly used male participants. Therefore, the question of whether the HCR-20 is suitable for use with females remains to be established. De Vogel and De Ruiter (2005) found that for male patients, the HCR-20 demonstrated good to excellent predictive validity for violent outcome (violent recidivism and inpatient violence); however predictive accuracy for female patients was much lower. In females, only the HCR-20 final risk judgement, and not the HCR-20 total score, demonstrated significant predictive validity for violent outcome.

3.8 Limitations

Webster and colleagues (1995, 1997), stipulate that the HCR-20 is not to be used for purposes which do not come under the remit of clinical risk assessment. Normative data and raw scores for the HCR-20 are based exclusively on clinical or forensic samples and are therefore only applicable to individuals within these settings. Practitioners who make use of the HCR-20 should have adequate awareness of test logic, psychometric methods and clinical practice and theory to understand both the test manual and be able to justify its implementation. Only those who have received appropriate training in the limits of psychological tests are qualified to interpret them.

The authors of the HCR-20 also highlight that totalling of scores should be used for research purposes only, therefore providing no cut-off within the manual in relation to overall level of risk. This is often not the case, with clinical teams regularly attributing scores to service users as an indication of treatment change. This could occur for a number of reasons. Within the HCR-20 training attended by the author, emphasise was put on validity data which concentrated on cut-offs for scores and the relevant risk categorization. Scores are also documented in the manual, the possible implications of this being further discussed below. Other issues, such as timescales are also emphasised on the training, individuals not having attended being less likely to be aware the HCR-20 needs re-administering after a period of 12

months or after any major change in an individual's circumstances or perceived risk status. HCR-20 assessments therefore have the ability to go without update for long periods, again affecting its validity and the suitability to be involved in an individuals care.

Similarly, whilst relevant training and prerequisite qualifications are highlighted as necessary for assessors within the manual, there is no mandatory training register, the scoring manual also being readily available within most settings. This, in combination with the relative simplicity of the administration of the HCR-20 has resulted in the assessment being applied by untrained individuals who often apply the numerical scores that are given in the manual. This leaves the question as to whether scores should be omitted from the manual altogether, or separate versions being devised for purposes of research and clinical practice. However, the appropriate use of scores is detailed within the manual, therefore responsibility also lies with the assessor, those who have received the relevant training needing to take an active role in the assessments appropriate usage. More recently, this appears even more pertinent, with the HCR-20 being observed to be incorrectly used as an overall measure of risk, regardless of what that risk may be. With the introduction of the fourth generation assessments, for example the Short Term Assessment of Risk and Treatability (START; Webster et al., 2004) this may become less of an issue, though trained clinicians still need to remain vigilant in the HCR-20's appropriate application.

Further limitations of the HCR-20 have been recognised (Witt, 2000.) The HCR-20 lacks comprehensive item-analytic studies which would aid understanding of the properties of individual items (e.g., item redundancy or which items are best measures of the construct). Conversely, the 'psychopathy' item is calculated by a score on the PCL-R or the PCL-SV. However, the PCL-R items measuring antisocial lifestyle (factor 2) is comparable to a range of HCR-20 items (e.g., relationship instability, employment problems, early maladjustment, plan's lack feasibility), resulting in these items being double scored. There is a clear need for

additional peer-reviewed validation studies on the HCR-20 in UK based samples (Dolan &Khawaja, 2004) taking into consideration the aforementioned limitation.

3.9 Summary

The discussion regards the incorrect use of scores highlights the need for more stringent controls on the training and application of the HCR-20, with the training itself needing to be more blatant in the differing application of the assessment for purposes of research and clinical practice. Different manuals for academia and clinical practice are recommended. However, trained clinicians have the responsibility of adhering to the scoring and interpretation guidelines and making sure any inappropriate usage at best does not occur and at worst is highlighted.

In relation to its ability as an assessment, the HCR-20 was developed rationally on the basis of clinical experience anchored in empirical findings. Levels of reliability are good, with inter-rater reliability indexes predominantly found to be above the required level of 0.80. In addition validity coefficients above 0.50 have regularly been reported. Research has shown that the HCR-20 risk assessment indices are significantly predictive of both inpatient and community violence by forensic populations, clinical items being most strongly related to aggression. The HCR-20 has also evidenced equivalent, if not stronger predictive validity in relation to other measures, for example the PCL-R. Nevertheless, the HCR-20 requires additional cross-validation studies or generalisability research on a range of differing forensic populations (especially UK samples, prison populations and female offenders) and settings to validate its use further.

An empirical paper, which examines the imminent level of risk posed by the dangerous and severe personality disorder group proceeds in Chapter 4.

Chapter 4

A Comparative Study of Risk within Dangerous and Severely Personality Disordered inpatients as measured by the HCR-20, Institutional Aggression and Self Harm.

4.1 Abstract

The Dangerous and Severe Personality Disorder (DSPD) Programme is seen as representing an enormous commitment of money and resources by the British Government to what is essentially a mental health initiative. Therefore, accuracy in risk assessment plays a key role in identification of the DSPD sub group thought to pose a very high risk of harm to both themselves and others (Douglas et al., 2005). Given this perceived elevated level of risk, it is assumed these offenders would, in principle, vary from non-DSPD individuals in their likelihood of causing serious harm. Whilst a previous study has shown UK prisoners who meet the DSPD criteria to be at a greater risk upon their release of both general and violent reoffending in comparison to non-DSPD prisoners (Coid, Yang, Ullrich et al., 2007), the extent of their imminent risk (to themselves and others) does not, to date, appear to have been examined. This paper aimed to address this matter by considering the degree to which 60 male inpatients within a high secure DSPD setting compared to 44 non-DSPD personality disordered inpatients within the same hospital in terms of their imminent risk. Comparisons were made on a structured clinical judgement assessment of violence, the Historical/Clinical/Risk Management-20 (HCR-20; Webster, Eaves, Douglas & Wintrup, 1997) and recorded incidents of institutional aggression and self-harm. Results indicated significant differences between the groups. DSPD patients engaged in significantly more violent risk related behaviours in the first year of their admission than their non DSPD comparators. Furthermore, significant differences were found between the C and R subscales as well as the total HCR-20 scores for both groups, the DSPD sample being assigned higher

mean scores by the multidisciplinary teams for all scales. Furthermore, the R and HCR-20 total score were found to be able to discriminate between personality disordered groups. The findings from this study will have a number of significant implications for both clinical practice and further research. Firstly, they will strengthen the validity of the DSPD model within both a medical and legal framework. Secondly, the findings will highlight important implications for the appropriate risk assessment and management of this so far under-researched patient group.

4.2 Introduction

Over recent years, mental health professionals have become increasingly concerned with the quantification and prediction of dangerousness/risk of psychiatric offenders. Increasing media speculation and government scrutiny of cases where clinicians have 'got it wrong' has served only to highlight flaws within the criminal justice system and field of psychiatry further. This is no more evident than in the realm of personality disorder, which historically has represented a rather arbitrary and predominantly medico-legal dilemma. The insertion of the treatability requirement in the 1983 revision of the mental health act, which stated that for an individual to be detained under the mental health act, they had to be perceived as treatable, resulted in disordered offenders being more likely to serve prison sentences than be detained within hospital settings, only to be released upon completion of their sentence, irrespective of any changes to their level of risk.

In the 1990's, a number of renowned cases (the most infamous being Michael Stone who killed Megan and Josie Russell) in which personality-disordered individuals committed highly publicised murders upon their release from prison, forced the government to re-consider mental health law. This led to a new legislation of preventative detention. The then Home Secretary, Jack Straw, stated in the House of Commons;

'' *There is a group of dangerous and severely disordered individuals from who the public at present are not properly protected, and who are restrained effectively neither by the criminal law nor by the provision of the mental health acts.... Because current mental health legislation prevents a detention, even of a person posing the highest possible risk to the public, unless doctors certify that the condition is treatable, those people remain at large and without the benefit of any attempts at clinical intervention unless they are convicted of a further offence... There should be new legislative powers for the indeterminate, but*

renewable, detention of dangerously personality disordered individuals. These powers will apply whether or not someone was before the courts for an offence'' (Straw, 1999, p.349)

Shortly after, the government in 1999, unveiled a pilot assessment and treatment programme for individuals deemed dangerous and severely personality disordered incorporating indeterminate detention. Four units were established to house such individuals, two within the National Health Service and two within the prison system. Diagnosed individuals could now be detained irrespective of any crime committed, rather, on the basis that the individual is deemed to pose an unacceptable level of risk of harm to society.

At the time the DSPD initiative was unveiled, the National Service Framework for Mental Health (DOH, 1999) estimated there were over 2000 individuals (98% male) who fitted the DSPD criteria in England and Wales. Most of these were already detained either in prison or secure hospitals. This presented a problem in that a large percentage of them were awaiting unsupervised release, further strengthening the need for the DSPD scheme.

4.2.1 Criticisms of DSPD

The initiative was not without its critics. The programme came into direct conflict with the UK Human Rights Act 1998, healthcare practice and the probability of divided professional loyalties. Many argued it was born out of a socio-political rather than psychiatric rationale for justifying psychiatric detention and, as such, was little more than ''a psychiatric manifestation of the late modern day culture of risk''(Corbett &Westwood, 2005, p121).

The uncertainty was confounded by a review of prediction studies published by Buchanan and Leese in 2001. They concluded six people with DSPD would have to be detained for a year to prevent one individual from acting violently within that timeframe. Additionally, they calculated that for every ten violent individuals with DSPD, five would be

identified and detained and five would be missed. Similarly, for every ten who would not be violent, seven would be identified and released and three would be detained. The acceptability of the rate of error was, they believed, to be a moral issue with clinical teams changing from prioritizing treatment to becoming agents of social control. The ability, therefore, 'to get it right' and continue to incarcerate those that remain a grave danger to the public, whilst at the same time not indefinitely detaining others due solely to diagnosis became of upmost importance for the clinicians working within this field.

4.2.2 Diagnosing DSPD

The models and theories which form the DSPD diagnosis are still developing, but are entrenched in the principle that explicit pathologies of personality instigate and sustain violence and a range of other risk related behaviours. The programme assumes those with these psychopathologies can be reliably identified and, unless internal changes occur, these individuals will commit further serious crimes. Ultimately, it is perceived that by treating their personality disorders, the risks they present will be substantially decreased, whether that risk is imminent or related to reconviction.

To encompass both key concepts of personality and risk, a DSPD diagnosis requires the concurrence of three fundamentals; dangerousness (more likely than not to commit an offence that might be expected to lead to serious physical or psychological harm from which the victim would find it difficult or impossible to recover), severe disorder of personality, and a functional link between the two. It still remains undecided how the functional link can be determined further than distinguishing that the individual belongs to two populations that overlap, namely those with personality disorders and those who engage in serious violent offending.

One of the ongoing concerns with this criterion surrounds the concept of ‘’dangerousness’’, there being little research in respect to its link with personality severity. Gunn (2000) went so far as to declare dangerousness a pointless construct in relation to DSPD individuals, as in his view dangerousness was something ascribed to people permanently, like eye colour. He thought it more sensible to talk about risk, which could be managed, predicted, and treated. Tyrer, stated, in 2002, ‘‘we know people are dangerous and know people have personality disorders. What we don’t know yet is the link between the two’’ (p.2) Despite this ambiguity, the following clinical admission criterion was devised at the programmes conception and remains the benchmark for entrance into the service;

- A score of 30 or above on the Psychopathy Checklist-Revised (PCL-R; Hare, 1991)

  Or

- A PCL-R score of 25-29 plus at least one DSM-IV personality disorder diagnosis other than antisocial personality disorder

  Or

- Two or more DSM-IV personality disorder diagnoses

4.2.3 Psychopathy

In addition to the apparent link between personality disorder and dangerousness in ‘diagnosing’ DSPD, one of the main diagnostic constructs is psychopathy. As a result of its association with anti-social behaviour, psychopathy has particular relevance in forensic populations and is now seen as a key criminogenic mental disorder. However, it has quite distinct legal and medical defintions.

The Mental Health Act first legally recognised ‘‘Psychopathic Disorder’’ in its 1959 publication, defining it as ‘‘a persistent disorder or disability of mind (whether or not

including significant impairment of intelligence), which results in abnormally aggressive or seriously irresponsible conduct '' (p.502). This term, which did not equate to psychopathy, was intended to reflect the presence of a personality disorder, in terms of condition for detention under the Mental Health Act 1983. With the subsequent amendments to the Mental Health Act 2007, the term 'psychopathic disorder' has been abolished, with all conditions for detention (e.g. mental illness, persolaity disorder, etc.) now being contained within the generic term of 'mental disorder'.

Currently, there are no diagnostic criteria in the DSM-IV for psychopathy, it being most strongly associated with antisocial personality disorder within the DSM-IV and dissocial personality disorder within ICD-10. Over time it has typically become operationalised by means of the Psychopathy Checklist – Revised (PCL-R; Hare, 1991; 2003). The tool measures the concept of psychopathy as a clinical construct defining it in terms of a cluster of affective, interpersonal and behavioural traits like egocentricity, lack of empathy, callousness and persistent violation of social norms. It is measured by a range of items, each of which are scored on a three point scale (0, 1, 2) according to two factors. Factor 2 is associated with reactive anger, anxiety, increased risk of suicide, criminality, and impulsive violence. Factor 1, in contrast, is associated with extroversion and positive affect.

Whilst the PCL-R's primary purpose was not originally as a predictive tool, a strong correlation between high PCL-R scores and serious sexual and violent offending has been established (Tengstrom et al., 2000). A range of studies reviewed by Hare (2003) suggest those scoring highly on the PCL-R do have a higher recidivism rate, specifically in relation to violent offending. Hare went on to speculate further that many of the characteristics that inhibit anti-social and violent behaviour, such as empathy, close emotional bonds and a fear of punishment, are absent or seriously deficient in psychopaths. From this alone it could be

assumed the DSPD population pose a greater risk not just to society upon their release but to staff teams and fellow patients in respect of their day to day management.

4.2.4 Available Research

So far, there is little research in relation to the DSPD population in terms of prevalence, prediction, treatment efficacy or risk. What has been published is largely speculative, the recency of the programme limiting long term prospective and follow up studies. In addition, the level of security in which the DSPD populations are detained limits access to the relevant sample groups. Whilst prevalence studies (Fazel & Danesh, 2002) indicate that personality disorders are common in adult and juvenile prison populations, and in mentally disordered offenders, as yet there is little published data on the prevalence of the criteria defining DSPD in either the prison or the mental health population.

In addition to the previously mentioned review by Buchanan and Leese (2001), the Prisoner Cohort Study (Coid et al., 2007) conducted a comparative follow-up study of DSPD and non DSPD prisoners. They found significantly more DSPD offenders were reconvicted after their release into the community. They accounted for statistically significantly more major violence and acquisitive convictions. This led the authors to conclude ‘’the risk of violent and acquisitive reconviction statistically associated with DSPD is considerable’’ (p.1).

Shortly after its opening in 2002, the DSPD pilot assessment unit at HMP Whitemoor carried out a study of violent incidents within the DSPD population. (Taylor, 2003). By comparing actual and expected levels of violence they found fewer incidents than initially predicted. This was taken as an indication of successful management within the unit and not an incorrect prediction of risk posed by this patient group. A further investigation of the assessment process at Rampton Hospital and HMP Whitemoor was conducted by the IMPALOX research team (Tyrer et al., 2008), funded by the Home Office. Using measures of

inter-rater agreement, neuropsychological testing and a controlled trial of the overall assessment process, a cost-analysis of the unit was completed. They concluded both staff and prisoner group had considerable expectations in relation to treatment outcomes. They further ascertained the units used a high degree of resources which in some cases were not always deployed effectively.

In relation to risk to self, Mannion (2008), examined the prevalence and nature of self-harm within a DSPD unit. Her findings suggested that DSPD patients are at a higher risk of harm to others than they are to themselves. However, these results are in contrast to the perceived danger these individuals were originally thought to pose to themselves (Royal College of Psychiatrists, 1996 in Crow, 2001; 160), having previously been suggested the DSPD population would be a far greater risk to themselves due to perceived high rates of suicidal behaviours and self harm.

Whilst the review of Buchanan and Leese (2001), and the Prisoner Cohort Study (Coid et al., 2007), go some way to establish the increased risk of the DSPD group upon their release, there is minimal research which examines the actual pre treatment level of violent risk this group poses on their admission or whilst being detained. It is only when this level of risk is correctly identified can it be managed and treated to guide its reduction. Furthermore, scepticism still remains around the DSPD diagnosis with there being no apparent research distinguishing this group from the non DSPD personality disordered populations already detained within high security. Such research is needed not only for economic validation but to also justify the legislation of indeterminate detention based on the concept of perceived elevated risk.

Against this background, the current study aims to examine the link between severity of personality disorder and risk. This will be accomplished by comparing DSPD patients to

other Rampton Hospital patients with personality disorders (PD) who do not meet the DSPD criteria, on a number of risk related variables relevant to their detention. This will be measured by recorded incidents of institutional aggression and self harm and a structured clinical judgement scheme; the Historical/Clinical/Risk Management-20 (HCR-20; Webster, Eaves, Douglas &Wintrup, 1997).

4.2.5 HCR-20

First published in 1995 (Webster, Eaves, Douglas & Wintrup, 1995), then revised in 1997 (Webster, et al., 1997), the 20 item (HCR-20) risk assessment is one of the most widely used new generation violence risk assessment instruments. The HCR-20 is intended to be used to guide methodoical data collection and encourage the appreciation of factors that are known to be associated with future violence. It consists of items that were closely correlated with violent behaviour, allowing raters to identify factors and contexts that contribute to the risk of a specific individual.

Items are split into three subsets, which, as the name suggests are historical, clinical and risk related factors. Ten historical items remain relatively static and are related to factors such as history of mental illness and problems with relationships and employment. Five items relate to current clinical presentation (e.g., lack of insight, current symptoms of major mental illness) and 5 items relate to future risk factors (e.g., lack of personal support, non-compliance with remediation attempts). Each item is scored as 0 (not present), 1 (partially or possibly present) or 2 (present). This leads to a maximum total score of 40 and maximum subscale scores of 20 for the historical scale and 10 for the clinical and risk scales. However, the totalling of scores is to be used purely for the purposes of research, and not to be applied within clinical settings to classify an individual's level of risk or as a measure treatment change.

In the UK, the HCR-20 has been shown to be a useful predictor of recidivism in prisoners, and of inpatient violence in psychiatric mentally ill patients in medium secure facilities (Doyle et al., 2002). De Vogel & De Ruiter (2005) found that for male patients, the HCR-20 demonstrated good to excellent predictive validity for violent outcome (violent recidivism and inpatient violence). Furthermore the HCR-20, by addressing dynamic factors offers advantages above other risk assessment schemes that rely exclusively on static items, hence it being a key component of the DSPD admission assessment battery and its inclusion in this study.

Whilst this research is not solely preoccupied with the predictive ability of the HCR-20, there are a limited number of studies that examine the predictive utility of the tool in UK samples of mentally disordered offenders. The findings from this study will therefore add to the empirical knowledge regarding the predictive ability of the HCR-20 within the DSPD offender group.

4.2.6 Research Aims

The aims of this study are twofold;

- To demonstrate a link between severity of personality disorder and risk by comparing HCR-20 total and subscale scores, institutional aggression and self harm across patients within PD and DSPD services.

- To examine the ability of the HCR-20 total and subscale scores to distinguish between DSPD and non DSPD personality disordered populations.

4.2.7 Hypothesis

Results are expected to reflect the elevated risk thought to be posed by the DSPD population. Higher rates of institutional aggression and self harm compared to those shown by the PD

population are therefore expected. In addition, the DSPD sample is expected to achieve higher HCR-20 subscale and total scores than their (non DSPD) PD counterparts.

4.3 Method

4.3.1 Sample

All patients included in this study were admitted to the high secure PD and DSPD directorates between March 2004 (date of opening for DSPD service) and March 2008. Upon their admission, each patient was assessed using the HCR-2O by their assigned multi-disciplinary team, who are all trained in the implementation of the assessment.

Patients were excluded by the author if they did not have one year's continuous stay within one directorate from the date of their admission. Furthermore, patients were again excluded by the author if they were assessed by the clinical team and found not to fit the criteria for entry into either the PD or DSPD service, even if this was post the one year assessment period. All HCR-20 scores were taken from the earliest assessment completed by the multidisciplinary team. Scores were classed as 'missing' if they could not be obtained for a patient within two years post admission.

The above criteria resulted in overall sample sizes of 60 and 44 for the DSPD and PD patient groups respectively. HCR-20 scores could not be obtained for three patients (1 DSPD, 2 PD) therefore these individuals were excluded from the relevant sections of the analysis.

4.3.2 Measures

This was a retrospective study using routinely recorded incident data stored centrally by the risk management department within the hospital. Clinical policy requires these reports be completed (by a member of staff who witnessed the incident) when any risk related or

clinical incident occurs involving either patient or staff. This electronic programme was used to produce a list of all incidents reported for all identified patients twelve months post their date of admission. An electronic programme for recording patient's daily nursing notes was used to obtain detailed descriptions of each incident if further clarification was needed.

The incident data was read by the author and used to devise a pilot data coding sheet which incorporated all documented incidents of aggression and self harm. Five patients were then chosen (every twentieth patient when placed in alphabetical order), the author and two fellow researchers from the Peaks Academic Research Unit coding the incident data for the five patients using the initial sheet. On completion, the three coders discussed the process, deciding further distinctions could be made between behaviours, for example verbal threats of physical violence and physical threats of physical violence. Hostage-taking behaviour and sexualised behaviours were also evident and therefore added as distinct behavioural subgroups.

The revised (and finalised) proforma sheet is included in Appendix H, data being coded to reflect incidents as follows; i) interpersonal violence ii) physical threats of violence ii) verbal threats of violence iii) verbal aggression iv) damage to property v) sexualised behaviour vi) racial abuse vii) self harm (threats, attempts and actual incidences) viii) suicide (threats, attempts and actual incidences) iix) hostage taking (threats, attempts and actual incidences).

In line with the DSPD planning and delivery guide (2004), the HCR-20 had been routinely completed by the clinical team upon a patient's admission, the assessment also forming a key component of the non DSPD PD admission procedure, again being completed by the patient's clinical team. HCR-20 subscale and total scores were therefore obtained from

existing electronic data sets compiled and held within the research department of the respective directorates.

All other data included in this study (offence history, treatment history and demographic information) was obtained from electronic databases held within Rampton Hospital, such data being collected by the research department for each patient admitted into both the PD and DSPD directorate as routine practice.

4.3.3 Procedure

As stated in section 4.3.2 offence related information and demographic data was obtained from the relevant electronic databases held within Rampton Hospital. HCR-20 subscale and total scores were likewise obtained in this way. Where HCR-20 scores on the database were missing, additional file and clinical database searches were completed by the author. Due to the HCR-20 being administered on a yearly basis, some patients had more than one set of scores, the first set of HCR-20 scores for each patient being included, it being believed the best indication of their pre treatment presentation.

In relation to incident data, total aggressive incident scores (i-iv) and total overall incident (i-iix) scores were also calculated and recorded. Only actual incidents and not third party information (allegations by patients) were included. Where several forms of aggression occurred during one incident (e.g., verbal and physical aggression), the most severe form of aggression was rated unless clear distinctions of behaviour and/or time could be established. A second researcher coded blindly a random sample of 20% of the incidents, and a Cohen's Kappa coefficient of 0.93 was found, indicating good inter-rater reliability.

Ethical approval was granted by the Peaks Academic Research Unit and Nottinghamshire Healthcare Trust.

4.3.4. Data analytic strategy

All data analyses were carried out using SPPS (version 17). Ratings showed a skewed distribution. Therefore, Mann Whitney-U tests were conducted to determine if significant difference existed between PD and DSPD groups in terms of institutional aggression, self-harm and HCR-20 subscale and total scores. To control for maturation, length of stay was tested. A chi-square test was completed on number of previous admissions, showing no significant differences between groups.

Spearman's Rho correlation was conducted to determine if an association existed between the HCR-20 scores and incidents of institutional aggression and self harm. Cohen's *d* was calculated as the measure of effect size, with 0.2, 0.5 and 0.8 being taken to equate to small, medium and large, respectively, in terms of size of effect in relation to variance.

Receiver Operator Characteristic (ROC) curve analysis was used to assess the predictive accuracy of the HCR-20 total scores. The area under the ROC curve or AUC measures discrimination; that is, the ability of the HCR-20 to correctly identify the placement of inpatients within either the PD or DSPD service. An AUC of .00 presents perfect negative prediction, and AUC of .50 represents a chance prediction, and an AUC of 1.0 represents a perfect positive prediction.

4.4 Results

4.4.1 Offence and detention related characteristics

Criminal history, treatment history and demographic information are included in table 6.

Table 6

Offence related statistics

	DSPD	PD	Sig.
Sentence Length (mths)			
Mean	85.3	54.75	0.004**
SD	44.19	32.81	
Life Sentence	45.5%	26.7%	0.002**
Indeterminate Sentence	45%	28.5%	0.002**
Adult Convictions			
Mean	23.53	15.11	0.020*
SD	21.74	15.01	
Age at First Offence (yrs)			
Mean	14.45	15.54	0.171
SD	2.61	6.68	
Age at Index Offence (yrs)			
Mean	27.23	26.47	0.085
SD	6.68	8.23	
Index Offence			
Violence	38.1%	36.9%	0.075
Sexual	46.7%	37.1%	0.026*
Substance induced index offence	65%	70.5%	0.065

P< 0.05*; p, 0.01**

The mean age of DSPD patients on their admission to the unit was 32.56yrs (*SD* = 7.961, Range = 19-53). The mean age of PD patients on their admission to the unit was 35.67yrs (*SD* = 8.113, Range = 18-59). Within both services the majority of patients were single (72.8% DPSD, 76.1% PD) and were of White-British Origin (90% DSPD, 84.7% PD).

Most patients were admitted into the DSPD unit from a non DSPD prison setting (56.7%). An additional 31.7% were admitted from prison DSPD units, making a cumulative total of 88.4% being transferred from a prison environment. Within the PD sample, 38.6% patients were admitted from non DSPD high secure prison settings, 34% from other high secure hospitals with an additional 13.6% having been transferred from medium secure units. Further offence and detention related comparisons of both sample groups are discussed in the results section of this study. Whilst significant differences were found in relation to source of admission, no further significant differences were found between groups.

4.4.2 Incident data

Mann Whitney U tests were carried out to discover whether there were significant differences in HCR-20 scores, the levels of institutional aggression and self harm across personality disordered samples. Only those analyses that produced significant results are presented here.

The year after admission, the DSPD patient group (*Mdn* = 14.00*)* engaged in significantly more overall incidents than their PD comparators (*Mdn = 3.00),* U = 580.00, $p < .001$, r = 0.48. This was also the case for violent incidents (interpersonal violence, verbal and physical threats, verbal aggression), with significantly more of this subtype of behaviour being evident within the DSPD sample (*Mdn* =10.50) than in the PD group *(Mdn = 2.50).* U = 653.50, $p < .001$, r = 0.43. In relation to damage to property, statistically significant differences were also evident between the two groups. The DSPD group displayed more of this type of behaviour (*Mdn =1.00),* than the non DSPD personality disordered group (*Mdn = 0.00)* U = 924.00, $p < .005$, r = 0.30.

The DSPD sample *(Mdn =1.00)* were also reported as engaging in significantly more suicidal and self injurious behaviours than the PD group (*Mdn =0.00)* U = 815.50, $p < .001$, r = .35. When combined, all other behaviours (sexualised behaviour, racial abuse, hostage

taking) were also found to be significantly more frequent within the DSPD patient group (*Mdn =1.00)* than within the PD sample. (*Mdn =0.00)* U = 717.50, *p* <.001, r = 0.44).

4.4.3 HCR-20 Scores

Table 7 details the descriptive characteristics of the HCR-20 total and subscale scores for both populations.

Table 7

Descriptive characteristics of the HCR-20

	Mean	SD	Minimum	Maximum
H-Scale (0-20)				
DSPD	16.10	2.24	8	20
PD	15.76	3.21	6	20
C Scale (0-10)				
DSPD	5.78	1.91	0	9
PD	4.44	2.38	0	9
R Scale (0-10)				
DSPD	5.97	2.75	0	10
PD	3.12	2.05	0	9
HCR-20 (0-40)				
DSPD	27.83	4.85	16	30
PD	23.34	5.74	9	36

A significant difference was found between the C scale scores for the DSPD group (*Mdn = 6.00*) and the PD group (*Mdn =4.00*) U = 808.00, *p* < .005, r = .29. This was also the case for the R scale scores, with a significant difference being found between the DSPD (*Mdn* = 6.50) and PD (*Mdn* = 3.00) samples. U = 514.50, *p* < . 001, r = 0.50. Analysis of the total

assessment score also yielded significant differences between the DSPD (*Mdn = 28.00)* and PD patient groups *(Mdn = 24.00)* U = 687.50, $p < .001$, $r = 0.37$.

4.4.4 Correlation Analysis

No significant relationship was found between the H scale and any individual or overall number of violent incidents of aggression or self harm. There was a significant relationship between the C, R and total HCR-20 score with the overall number of incidents within the DSPD sample. Spearman's correlations were found as follows;

C Score; $r_s = .468$, $p < .001$

R Score; $r_s = .382$, $p < .001$

Total score $r_s = .411$, $p < .001$

All the above mentioned scales had positive relationships with the institutional behaviours within the DSPD sample that were investigated within this study. All correlations were found significant at the 0.01 level and are shown in Table 8 below.

Table 8

Correlations between institutional behaviour and HCR-20 total and subscales in DSPD population.

	C Scale Score	**R Scale Score**	**HCR-20 Total Score**
Violent Incidents	.409	.311	.364
Other Behaviours (racial, sexual, hostage)	.358	.268	.311
Self Harm and Suicide	.318	.334	.318

4.4.5 ROC analysis

Area under the curve values (AUC'S) are presented in table 9**.**

Table 9

AUC's for HCR-20 and Population

	H Scale Score	C Scale Score	R Scale Score	HCR-20 Total Score
Population	.488	.672	.791	.721

It is evident the R scale and the total HCR-20 total score have predictive validity above that of the H and C scale in terms of correct placement within either the DSPD or PD directorate. However, the C scale still produced an AUC significantly greater than chance. Using a cut off of 0.5 to indicate significantly better than chance predictions, a HCR-20 total score of 25.5 or above would point towards the need to place an individual within the DSPD population, in relation to their risk as measured by the HCR-20.

4.5 Discussion

4.5.1 Evaluation of current study

This study aimed to examine the link between severity of personality disorder and risk as measured by the HCR-20, institutional aggression and self harm. Due to the DSPD patient group's perceived elevated risk, it was hypothesised they would display more violent and aggressive acts, also engaging in more indirect risk related behaviours such as damage to property and verbal abuse. The findings from this study supported this hypothesis with the DSPD sample engaging in significantly more overall risk related behaviours within their first year of admission than their PD comparators. The DSPD sample was also found to be at an increased risk to themselves, the combined occurrence of self-harm and suicide being significantly more frequent than within the PD sample group.

In respect of individualised behaviours, the DSPD sample were found to engage in significantly more verbal and physical threats of violence, verbal aggression and abuse (general, sexualised and racial), damage to property, inappropriate sexual behaviour, and deliberate self harm and suicide combined. There was no significant difference between groups in relation to interpersonal violence (i.e., in which physical contact was made) though possible reasons for this are discussed below. No significant difference was found in hostage taking behaviour, however, it should be noted that this may be more of a statistical artefact, given the low number of patients who engaged in this subset of behaviour.

Significant differences between groups were further observed within the C, R and total scores of the HCR-20 assessment administered by the multidisciplinary team. Whilst there were no significant differences in terms of H scale scores between the two groups, this is in line with previous research. Specifically, Macpherson and Kevan (2004) state that most historical items of the HCR-20 demonstrate predictive power for future reoffending and are not concordant with current clinical issues or imminent risk. Similarly, Grevatt et al. (2004), hypothesised that the historical factors serve to alert us to the possible risk of violence whilst clinical factors determine the imminence and repetitiveness of this. These studies were however in contrast to those of Gray et al. (2003), who concluded that the H scale was the most robust predictor of inpatient violence.

The H scale score of the tool was not found to correlate with any form of institutional risk related behaviour. Nor did it appear useful in determining whether an individual would be correctly placed within either the DSPD or PD service. Whilst the C,R and HCR-20 total score all had significant positive relationships with both specific and overall total incident scores for institutional violence, the C scale score was found to have the best overall positive relationship with all DSPD behaviours examined within this study.

Based on ROC analysis, the C, R and HCR-20 total scale scores demonstrated better than chance ability to predict correct placement. Whilst the HCR-20 is not a diagnostic tool, initial findings suggest it may be able to discriminate between the personality disordered populations examined here, again highlighting probable differences between the two groups.

4.5.2 Limitations of research

Several limitations of the current study deserve mention. Firstly, the incidents reported in this paper refer only to those incidents that staff have observed or been made aware of, and hence may not be truly representative of actual frequency of behaviour. In addition, close observation and high staffing ratios are key components of the DSPD environment, possibly resulting in the increased detection of risky behaviours within that unit in comparison to the unit housing the PD patients. The high staffing ratios could be one reason for the non significant differences in terms of interpersonal violence, (as well as the overall low number of incidents reported), as the patients' opportunities to make physical contact could be restricted.

Secondly, this study only utilised one outcome source to detect violent recidivism; hospital incident report forms. Douglas and Ogloff (2003), however, recommend the use of multiple measures, to minimise bias. For example it may be hypothesised that studies using only one hospital incident report or database may underestimate the number of incidents, particularly verbal aggression. Experienced members of staff, who observe and manage such behaviours on a regular basis due to the nature of the job, may not necessarily record verbal aggression, particularly if it does not escalate into a more serious incident. Future studies should utilise additional measures of outcome to control for any associated biases.

In contrast, incidents may have been over reported within the DSPD population due to the 'zero tolerance' approach of the unit. Whilst a verbal outburst may be seen as a patient

venting their emotions or simply ‘’letting off steam’’ within the PD directorate, a similar behaviour from a DSPD inpatient may be noted as verbal aggression, with staff, due to their hypersensitivity to the risk this patient group poses, recording anything they deem inappropriate or risk related. This is highly speculative and cannot be corroborated without further research.

Thirdly, contextual issues which may have contributed to aggressive incidents have not been addressed within this paper. The demographic characteristics of staff, their behaviour and style of interaction with patients, their use of aggression management strategies, their therapeutic alliance with patients, their style of boundary setting, the availability and willingness of staff to assist with patients' requests may all influence the likelihood of aggression. Cheung, Schwietzer, Tuckwell and Crowley (1996) found 34.3% of violent incidents within a mentally ill inpatient sample (n = 220) followed staff/patient interactions,INIDIV such as staff requesting patients take medications or staff turning down patients demands. Whittington and Wykes (1996) reported that 86% of 63 assaults by patients on nursing staff were immediately preceded by an adverse stimulus delivered by the assaulted nurse. These interactions included physical contact, an activity demand or a frustration inducing interaction.

Preserving a cohesive and optimistic therapeutic environment can be challenged in itself by the aggression, self harm and abusive behaviour that have been shown to be displayed by the DSPD patient group within this study. These behaviours have the potential to disrupt achievement of therapeutic objectives, with staff resources being directed away from the provision of therapy to the management of the more disruptive individuals. Although it would be unreasonable and inaccurate to imply that staff members cause aggression, the above mentioned research is sufficient to suggest staff behaviours, attitudes

and practices will have undoubtedly been a confounding factor within this study. Further research in respect of this is therefore required.

Without additional investigation into environmental and situational factors, the effects of iatrogenic issues upon this study also remain largely unknown. It is now widely accepted that a large proportion of personality disordered individuals have experienced some level of trauma or abuse, often contributing to the development of their disorder. The intensity and exposure of both the assessment and treatment phase within the DSPD unit could potentially cause emotional instability in an already volatile patient group. In addition, it is noted 56% of DSPD patients were admitted from non DSPD prison environments. This is in contrast to 38.5 % of the non DSPD personality disordered sample. Due largely to resources and population numbers, patients are less likely to undergo individualised trauma based interventions within prison, therefore a move to a high intensity therapeutic environment may have potential detrimental effects on an individual's immediate emotional state and consequential behaviour.

Nevertheless, whilst it is recognised there are a number of possible explanations for the statistically significant difference in terms of risk, the findings only serve to corroborate previous assumptions and hypotheses of ''dangerousness'' within the DSPD population further. These results highlight the need for risk management and reduction to remain central components of the DSPD programme.

4.5.3 Implications for policy and practice

Patients and prisoners within DSPD units are often said to be challenging, confrontational and manipulative in their behaviour. They can be expected to test boundaries and to identify and exploit any weaknesses that may exist in the operational system or in the working relationships on the unit. This can pose a significant risk to the health and safety of

all staff working in DSPD units, and to the security and integrity of the units themselves. It can also lead staff to question their ability to both manage and treat on a wider scale, with high staff turnover and burnout being common by-products of working with personality disordered individuals.

By distinguishing and establishing the challenging nature of this patient group, the findings of this paper serve to offer some level of reassurance to staff who work within DSPD units on a daily basis, validating and acknowledging the complexity of their job role. The findings indicate that dynamic/relational security within DSPD units should be maintained at levels commensurate with the assessed risk, rules and procedures. The provision of appropriate care and clinical treatment must be balanced against the safety of the public, the staff and the patient. Units should regularly review security protocols to confirm they are sufficiently robust to meet the particular demands of a DSPD population. Team stability (Taylor & Schanda, 2000), highly structured schedules, meetings and procedures, competent, committed and accessible psychiatrists, and supportive interpersonal interactions between patients and staff may reduce the likelihood of aggression (Katz & Kirkland, 1990). It is paramount for the safety of both patients and staff such protocols are implemented and routinely carried out to aid the therapeutic nature of the unit.

Whilst the purpose of this study was not about the utility of the assessments used in the DSPD population, the value of these findings is in assisting those who admit patients in understanding and anticipating the management problems they will be faced by this notoriously difficult to manage population. Examining the evidence, it appears that the use of structured risk assessment, specifically the HCR-20 within the DSPD population to aid clinical decision-making can be valuable. However, due to the shortage of research with this population, and the varying findings of studies which examine the use of the HCR-20 in UK

populations, clinicians should remain vigilant in maintaining its appropriate usage for both assessing and managing both imminent and future risks of violence.

The DSPD initiative is considered a therapeutic experiment on a massive scale. Mullen (2007) stated that ‘’if it fails it is doubtful there will be any further money for initiatives directed at offenders with mental illness for some time.’’ (p.6). The ongoing evaluation of the DSPD concept and therapeutic programme is therefore necessary not just for guiding treatment but also to evaluate its overall cost effectiveness, whilst at the same time public safety remaining the over-riding programme objective.

4.5.4 Suggested areas for further research

As stated previously there is little research in relation to the DSPD population in terms of prevalence, prediction, treatment efficacy or risk. Therefore, any further examination of the DSPD offender group would be welcomed. In relation to this study, further exploration of the impact of environmental factors would need to be carried out to validate the findings further. Interviewing of staff in relation to their attitudes and perceptions of the patient group and examination of factors such as ward routines and therapeutic input are recommended.

A further continuation of this study would be to conduct a longitudinal prospective study following DSPD patients from admission through to discharge and into the community. Whether it be the HCR-20 or another appropriate measure of risk, their systematic completion could monitor levels of violence in terms of repetitiveness, severity, target, and cause. Perhaps then ‘dangerousness’ amongst the DSPD subgroup can be able to be interpreted, predicted and truly measured.

The HCR-20 is one of a number of assessments completed within the DSPD unit by the multi-disciplinary team upon a patient’s admission. All individuals complete a range of

both risk and personality related assessments, covering behavioural, cognitive, affective, interpersonal and self-regulatory domains. Whilst this study goes some way to validate the HCR-20's use, further research is needed to assess the utility of the range of assessments and tools used within the DSPD service.

More generally, studies in relation to risk management and prediction tend to vary the outcome measure they use, making findings difficult to compare. This is complicated by an apparent lack of consensus with respect to terminology, studies applying varying definitions of what constitutes ''aggression''. Some studies define aggression as physical attacks against a person or persons, whereas others incorporate verbal aggression, such as threats, and violence perpetrated against property and/ or themselves. Comparisons between studies are therefore difficult, as they often use a variety of outcome measures and behaviours as an indication of a reduction in risk. Additional studies with the aim of agreeing a consensus in appropriate definitions would allow research to guide risk reduction further.

4.6 Conclusions

In summary, this preliminary paper has been the first to examine a range of imminent risk related behaviours within a DSPD population. The analysis of incident data and HCR-20 scores suggests that the DSPD patients are at a higher risk of harm to others and themselves than the non DSPD personality disordered groups already detained within the same high secure setting. Establishing this has been necessary due to the high profile and ongoing uncertainty as to both the nature of the DSPD 'diagnosis' and the actual level of risk the offender group present to both themselves, peers and society.

The challenges for DSPD services remain two-fold; firstly, to adapt such assessment and treatment services to the distinctive risk related characteristics of individuals with DSPD and to secondly prioritise research and evaluation into the effectiveness of the programme

and the label of DSPD. Individuals admitted to DSPD services are already shown to pose a high risk of reoffending upon release, therefore the focus of risk assessments and immediate research must include, and even prioritise the identification of dynamic risk factors which are more amenable to change and can be addressed as immediate treatment targets. However, it is clear that the therapeutic effectiveness of the DSPD services has yet to be demonstrated, the relative newness of the service meaning it not may not being able to be done for some time.

Finally, this research goes some way to show the DSPD Programme now represents a novel and important initiative for improving mental health services to a group of individuals who are as disordered as they are dangerous and as damaging to themselves as they are to others. Although the long term costs and outcomes of the DSPD programme will take years rather than months to be realised, it is the short term costs and outcomes, addressed here that need to be of immediate concern to policy makers, staff and service users alike.

The practical implications of the assessment and treatment of violence in a personality disorder offender are explored in the following chapter. The single case study serves to highlight the problematic nature of working therapeutically with personality disordered individuals.

Chapter 5

CBT based Anger Management and Behaviour Modification of a Learning Disabled Inpatient with Borderline Personality Disorder

5.1 Ethical Considerations

The subsequent case study is based upon a factual description of the assessment and treatment of a female patient residing in a low secure step down service, who for purposes of anonymity will be referred to as MH. The patient is referred to by a pseudonym; Ms W.

Due to a diagnosis of a mild learning disability, there are issues related to Ms W's capacity to consent to both treatment and research. However, there are techniques which can be utilised in order to enhance an individual's capacity such as simplifying language, using visual aids and checking the client's understanding of the information. Such techniques were applied in gaining Ms W's verbal consent so as to allow her information to be used for the purpose of this study. Verbal consent was also gained from the patient's Responsible Clinician.

The undertaking of this case study has conformed to the ethical guidelines as stated by the British Psychological Society.

5.2 Abstract

The aim of this study was to consider the effectiveness of an intervention based programme of emotional recognition and regulation on a female inpatient with a current diagnosis of mild learning disability and borderline personality disorder. After completing a comprehensive psychology post-admission assessment it was decided among her multi disciplinary team (MDT) that Ms W would benefit from individual therapeutic input to assist her in controlling her emotions. This in turn would expectantly reduce the intensity and frequency of her aggressive behaviour.

The intervention strategy was multifaceted' delivered using a number of approaches. Ten individual sessions were planned, guided largely by the cognitive behavioural model of anger treatment for people with learning disabilities by Taylor and Novaco (2005). The aim was to enable Ms W to recognise and distinguish between emotions, become familiar with her early warning signs and functions of her behaviour and to utilise effective coping strategies in order to manage her aggressive outbursts. Each individual session concluded with core mindfulness skills practice, which are central to dialectical behaviour therapy (DBT), an intervention devised to target behaviours thought specific to individuals with borderline personality disorder.

In order to extend the treatment to the external environment a 'reward based' behavioural modification plan was devised in collaboration with Ms W, with the aim of motivating her to engage in pro-social 'green behaviours' and minimise her usage of risky 'red behaviours.' Ms W's plan and its accompanying notes to staff are included in Appendix I. This plan was to be utilised on a daily basis with nursing staff input, guided and reviewed on a weekly basis within the individual psychology sessions. This was implemented with the

intention of assisting the staff to manage Ms W's behaviour and would serve to shape, manage and maintain Ms W's behaviour outside of her psychology sessions.

Treatment change was planned to be assessed through the use of psychometric assessments, in addition to weekly monitoring of her specific risk behaviours. However, Ms W was transferred as an emergency admission to medium secure services prior to the last session, therefore post treatment measures could not be administered. Her behavioural monitoring data throughout the treatment period show a decrease in the frequency of incidents of physical and verbal aggression, including a reduction in her incidents of self-harm. Conversely, the intensity of her aggression, on these albeit reduced occasions, resulted in her return to medium secure services, after on one occasion she caused significant damage to the building and assaulted police officers who had been called in response to her unmanageable behaviour.

The implications of Ms W's results are discussed in detail and recommendations for further work and research are suggested.

5.3 Introduction

5.3.1 Introduction to Client

Ms W is a 49 year old female with a working diagnosis of borderline personality disorder and mild learning disability (Full Scale IQ 64), having been first diagnosed sixteen years prior. Her clinical presentation is characterised by frequent verbal and physical aggressive outbursts with equally recurrent episodes of self harm. Whilst having a long history of violence related offences, Ms W is currently detained under section 37/41 of the Mental Health Act (1983) after being convicted of arson with the intent to endanger life. After being incarcerated for a short period within HMP New Hall, Ms W was transferred to a medium secure hospital due to her apparent euthymic mood and continuous self harm. With Ms W having a psychiatric history prior to her detention, questions are raised as to the appropriateness of her initial placement within the prison system, with this and the possible effect on her mental health being discussed further in the chapter.

After a period of three years within medium secure services, her previous clinical team perceived Ms W had established a level of stability in respect of her mood, aggression and self harm to warrant her referral to a low secure placement. Ms W was transferred to her current placement, a low secure step down service in August 2008, after being assessed as suitable by two members of her current clinical team.

As per all patients admitted to the service, a range of post admission assessments were completed with Ms W to formulate her package of care, the results thought relevant to this study being presented in section 5.6. The results, in combination with frequent incidents of aggression and self harm led the clinical team to make a referral to the psychology department to commence psychological work on emotional regulation in order to assist Ms W gain stability over her aggression and self harm.

Whilst the remainder of the introduction briefly reviews literature thought relevant to both aspects of Ms W's diagnosis and her offending behaviour, more detailed case history is included for the purpose of formulation in section 5.4.

5.2 Learning Disability and Offending Behaviour

There are three core criteria for an individual to be diagnosed with a learning disability (LD) (The Department of Health, 2001; Royal College of Psychiatrists, 2001; The American Psychiatric Association, 2000);

- Significant impairment of intellectual functioning (IQ of approximately 69 or below) on an individually administered IQ test.
- Significant impairment of adaptive and social functioning. Concurrent deficits or impairments in present functioning (i.e., the individual's effectiveness in meeting the standards expected of his/her age and cultural group, in at least two of the following: communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, health and safety).
- Age of onset before adulthood (i.e., 18 years of age).

In a retrospective study, Hodgins (1992), found men were three times more likely to be convicted of an offence by the age of thirty if they had a learning disability than non learning disabled comparators. Furthermore, she found this true for women, with them being four times more likely to receive a conviction than their non learning disabled counterpart. The discrepancy was also evident when looking at violent offences, where men with learning disabilities were four times more likely than men without a learning disability to have a criminal conviction, women being twenty-five times more likely to be convicted with a violent offence if diagnosed with LD.

Learning disabled offenders, predominantly those detained in secure surroundings, are inclined to present with multifaceted problems. Like most individuals who are incarcerated, it is probable they will experience irritation, resentment, helplessness and discrimination in relation to repressive secure environments and difficulties in communication (Taylor, 2002). Additionally, previous sexual or physical abuse may result in unaddressed victim issues. This may hinder an individual's motivation to change with LD individuals often presenting with little autonomy in their capability to change in respect of both clinical and criminogenic needs (Jones, 2002).

5.3.2 Learning Disability and Emotional Regulation

Research indicates there is an increased occurrence of emotional developmental problems and volatility in people with LD in contrast to the non learning disabled adult population (Arthur, 2003). Gray et al., (1983) reported that individuals with a learning disability have an inability to control high intensity emotions which are puzzling, poorly recognised, badly handled and unwanted. From a review of the literature, Arthur (2003) concluded there is evidence to suggest the social emotional development of children and adolescents with LD differs considerably from their non-LD counterparts. It is these differences which add to the development of adult emotional problems and challenging behaviours.

Walker (2000) suggests problems with regulating emotions are common for highly sensitive adults with LD. Most adults learn to handle their emotional sensitivity and therefore avoid becoming overwhelmed or engaging in negative social interactions. However, others such as individuals with LD may experience reoccurring problems with regulating impulsive actions or thoughts. Walker (2000) reports factors contributing to self-regulation problems in the LD population include a lack of education, employment and/or social success. This is likely to contribute to an individual's emotional distress. Some adults with LD, especially those who have been ridiculed by their family members, teachers and/or peers, may be more

hypersensitive to criticism due to earlier experiences and/or their ultra sensitive nature. Ultimately, research proposes that poor emotional regulation can account for poor social skills in LD individuals, providing a potential justification for LD individuals and their predisposition to engage in offending behaviour (Adams & Markham, 1991).

5.3.3 Learning Disability and Personality Disorder

There is little research into personality disorder in people with learning disabilities. This relationship was first made by Earl (1961) in his book on *Subnormal Personalities.* He classified people with learning disabilities into the following personality types: weakness, simplicity, immaturity, instability, schizoidia, viscosity, neurosis, psychopathy and psychosis. Subsequently Corbett (1979) produced what was essentially the first systematic investigation into personality disorder in adults with intellectual disability. He reported a prevalence rate of personality disorder of over 25% in a large community sample of 402 individuals. Ballinger and Reid (1987) found a similar high rate of severe personality disorder in 22% of the population in their sample of 40 patients diagnosed with mild or moderate disability. They were of the view that the diagnostic criteria for personality disorder did not really apply to people with 'severe mental retardation' and suggested that a typology rooted more in developmental concepts might be more applicable with this specific group.

More recently, Khan, Cowan and Roy (1997) completed a study on 101 individuals with mild, moderate and severe intellectual disability. They found that 31% of the population had sufficient impairment to warrant a diagnosis of personality disorder and a further 19% had abnormal personality traits, totalling 50% of the sample group. Goldberg, Gitta and Puddephatt (1995) also reported very high levels of personality disorder in samples of people with intellectual disability. They found abnormal personality traits in 55% of individuals in an institutional sample and 91% of individuals in a community sample. Flynn, Matthews and Hollins (2002) studied a hospital in-patient sample of 36 cases. They reported that 92% of

participants were diagnosed with personality disorder and 39% with severe personality disorder. In contrast, Naik, Gangadharan and Alexander (2002) working on ICD-10 criteria, found personality disorder in 7% of participants in a community sample and 58% in a hospital inpatient sample.

Alexander and Cooray (2003) reviewed a number of studies examining a range of factors which complicated diagnosis of either disorder. These included a lack of reliable diagnostic instruments, differences between ICD-10 and DSM-IV diagnostic systems, confusion of definition and personality theory, and the difficulties of distinguishing personality disorder from other problems that are integral to intellectual disabilities (e.g., communication problems, sensory disorders and developmental delay). They concluded that ‘’the variation in the co-occurrence of personality disorder in learning disability with prevalence ranging from 1% to 91% … it too large to be explained by real differences’’ (p.29). They recommended tighter diagnostic criteria and greater use of behavioural observation and informant information.

Based on the available research it is apparent personality disorder has certainly been diagnosed in people with intellectual disabilities and may indeed be a significant problem amongst certain populations of this client group. Integrative research on these two diagnostic areas are at best interpretative and at worse guesswork. And yet personality and intellectual ability as separate entities have become such important variables in the field of criminality that it is apt to begin to set parameters for assessment and review of the two factors intertwined which will be of aid to clients and clinicians.

5.3.4 Borderline Personality Disorder

As discussed in Chapter 2, borderline personality disorder (BPD) is a severe and complex mental disorder. Individuals diagnosed with the disorder tend to be emotionally labile and

impulsive. Their personal lives are characteristically unfocused and unstable and are often marked by frequent disappointments, abuse and rejection.

The DSM-IV criterion for a diagnosis of BPD revolves around a pattern of unstable and intense interpersonal relationships characterised by alternating between extremes of idealisation and devaluation. Whilst the diagnosis presents the clinician with a number of therapeutic challenges, diagnosed individuals often share similar underlying schemas related to traumatic early childhood experiences. This results in a self view based on uncertainty about self-identity, gender, their future and their own self worth. Their world view is equally uncertain as they are ambivalent about others' loyalty to them, the stability of the world, and the likelihood that they can make a commitment to anything or anyone (Sperry & Mosak., 1996).

As this group of individuals are generally impulsive, affectively labile and often experience feelings of entitlement, they also easily become involved with the criminal justice system, often displaying both inward and outwardly aggressive behaviours whilst detained. In a study by Singleton et al., (1997) BPD was found to be present in 20% of the female prison population and 14% of the male remand population, with this group being seen by the mental health in- reach teams more than any other personality disorder.

5.3.5 Borderline Personality Disorder and Emotional Regulation

Both the DSM-IV and the ICD-10 classification system emphasise problems with anger dyscontrol in borderline functioning. Frequent, intense anger and aggressive outbursts are included in both sets of criteria. The biosocial theory of BPD (Linehan, 1993) puts forward the concept that this dysfunction of emotion results from biological irregularities combined with certain dysfunctional environments, as well as their interactions over time. Invalidating environments during childhood contribute to the development of emotional dysregulation;

they also fail to teach the child how to label and regulate arousal, how to tolerate emotional distress, and when to trust their own emotional responses as a valid reflection of an event. As adults, borderline individuals adopt the characteristics of this invalidating childhood environment, resulting in behaviour such as high sensitivity to emotional stimuli, emotional intensity, and slow return to emotional baseline. Ultimately, this means that borderline individuals characteristically react quickly to perceived threats or slights and have a low threshold in terms of their emotional reactions.

The main goal of treatment for borderline individuals is to achieve some measure of stability and cohesiveness in respect of their emotions and mood. Mindfulness skills, which have been incorporated into a range of forms of psychotherapy (Segal, Williams, & Teasdale, 2002) including DBT, have been shown to be effective in increasing tolerance of distressing situations and emotions, therefore training in these skills will be included as a planned intervention as part of this study.

5.4 Background Information

5.4.1 Forensic Environment- Low Secure Step Down Service

MH is a low secure step down unit owned and run by a private healthcare company. The 18 bed mixed gender unit receives referrals from a variety of sources, predominantly from medium secure units within the same company, but also alternative private and NHS funded services.

All psychological work is undertaken in the context of a multi-professional approach. The team consists of a psychiatrist, nurse, psychologist, and an independent advocate, with outside clinicians being asked to attend meetings on a regular basis. Multidisciplinary

meetings are held on a weekly basis to consider each patient's progress and to also discuss other clinical issues such as referrals and in-house incidents.

5.4.2 Detailed Client Introduction

Ms W is a 49 year old woman diagnosed with a mild learning disability and borderline personality disorder. She was admitted to MH on 10th September 2008 from a medium secure service initially under Section 37 of the Mental Health Act (1983). The section was not renewed and she was made informal in January 2009. She has a long history of violent offences including criminal damage and assault, also having been incarcerated for a period of 18 months due to her index offence of arson. Ms W has self injured since the age of 11 using a range of methods, also having attempted repeatedly to take her own life. She is known extensively in the local area to both mental health and general medical services.

Evidence for Ms W's personal history has been obtained from previous documents, reports and clinical interview. Whilst her reliability as a historian in unknown she has not been shown to present in a socially desirable manner in assessments administered whilst residing at MH.

5.4.3 Family history

Ms W describes her mother as an alcoholic since before Ms W's birth with her ''…not really behaving like a mother should'' as a result. Ms W recalls her never having worked, spending most of her time in the family home or at the local pub. Her mother separated from Ms W's father when Ms W was 2 years of age. Ms W is unaware of the reason for their separation. Her mother remarried when Ms W was aged 4 years, divorcing when her step father was charged with sexually abusing Ms W and her siblings eight years later. She died of an alcohol related illness in 2000. Ms W reports having had little contact with her mother in the latter years of her life.

In relation to her biological father, Ms W states having ‘‘…only positive memories of him’’ having had contact on a regular basis, despite never having resided with him throughout her childhood. She reports having spent her holidays with her father and her maternal grandmother in Skegness, these being the only good memories from her youth. Her father died in 2002 due to respiratory illness following exposure to asbestos. Ms W reports that she is still deeply traumatised by his death.

Ms W recalls her stepfather as a ‘’…nasty and evil man’’ drinking alcohol excessively, in addition to regularly consuming illicit substances, namely speed and cocaine. Furthermore, Ms W states that he subjected her and a number of her female siblings to routine sexual abuse, threatening them with violence if they did not conform to his requests. He was arrested for the same when Ms W was aged 12 years as a result of one of Ms W’s aunts informing the police after Ms W’s sister disclosed the abuse. Ms W reports having last seen her stepfather at the age of 14 years. He was sentenced to prison and is unaware of his current whereabouts. Her stepfather became a‘‘…not talked about issue within the family’’ after his incarceration.

Ms W has five siblings who all reside in the local area. They are all married with families of their own, with no known mental health issues. Ms W states that, through her own choosing, she has had no contact with them for a number of years due to them allegedly subjecting her to sexual, physical and emotional abuse throughout her childhood and her teenage years.

5.4.4 Early childhood

Ms W was born in Bury, Lancashire by normal delivery reporting no pre, peri or post natal developmental problems. However, she reports being slow at walking and acquiring speech, being teased by her siblings because of this for a number of years. Ms W recollects having an

unhappy childhood, due predominantly to being sexually abused by her stepfather on an almost daily basis since the age of four years old, having no good memories of her life within the family home.

5.4.5 Education and occupational history

From attending school at the age of four years, Ms W states she ‘‘…had problems reading and writing’’ resulting in her possessing limited numeracy and literacy skills. She was transferred to a learning disability school ‘for disturbed children’ at the age of 12 years. She remained there until the age of 18, though reports not enjoying this placement. She states she did not enjoy the school, often being bullied by the older children due to her ‘‘…telling people exactly what she thought of them.’’ Ms W has no work history, although she wishes to seek voluntary employment working in an ‘’...old people’s home’’ when she has acquired a period of stability which would allow her to do so.

5.4.6 Psychosexual and relationship history

Ms W became pregnant at the age of 18 with her first child, a son. At 21, she became pregnant again, resulting in the birth of her daughter. Both children have the same father. However, both children were taken into care soon after their birth as Ms W was judged as being unable to provide adequate care. She refuses to discuss the father of her children and there is no further information about him. There is mention he was physically abusive to Ms W on a number of occasions, although she refuses to corroborate this.

Ms W was sterilized at the age of 22 years at her request, as she did not want to go through the pain of losing another child. She has recently attempted to regain contact with both children, although neither have been receptive, this being a current source of upset and anguish for Ms W. She is currently in a relationship with Mr P who is aged 56 years. They

have been a couple for approximately 11 years with him visiting her regularly whilst she has been detained. They met whilst Ms W was living in the community. There are no indications he has any mental health problems or criminal history.

5.4.7 Psychiatric history

Ms W presented with a range of challenging behaviours throughout her childhood, first seeing a psychiatrist at the age of 12 years. At this time she was displaying repeated aggressive outbursts and engaging in a range of self injurious behaviours. Over the years she has had extensive contact with mental health services presenting with self harm (i.e., overdoses, inserting, self-ligaturing, cutting, and ingesting), often in a histrionic way in response to problems. On two occasions she has been prohibited from using the local Accident and Emergency departments due to her excessive usage, also making frequent calls to the emergency services throughout her adult life. Ms W has had a number of lengthy inpatient admissions having been previously diagnosed with Munchausen's Syndrome, emotionally unstable personality disorder, manic depressive disorder, and unipolar disorder in addition to her current diagnosis of mild learning disability and borderline personality disorder.

5.4.8 Substance misuse

Ms W reports having never used illicit substances or having drunk alcohol. She relates this to having seen the effect of both on her mother and her stepfather associating her abuse with his excessive alcohol and drug usage.

5.4.9 Forensic history

Ms W reports having a long list of previous convictions including criminal damage, assault, use of an offensive weapon and two counts of arson. In 2002 she was convicted of grievous

bodily harm for assault on an ambulance worker and was sentenced to eight months imprisonment. Her index offence took place in August 2003. Ms W reports having had a heated argument with her partner after she accused him of having an affair with one of their neighbours. She fully acknowledges that she went into the bedroom of the flat they were residing and proceeded to set fire to a pillowcase with a lighter. Ms W states this was an intentional act and was driven by frustration and anger. She denies any suicidal ideation. Ms W has previously set fire to towels and carpets, again predominantly following arguments with her partner or her peers. As a result she has received fines and four charges of criminal damage.

5.5 Pre-intervention Assessment

5.5.1 Assessment methods

The assessment was carried out utilising a variety of methods. Together with clinical interviews, and collateral review, the Million Clinical Multi-axial Inventory-III (MCMI-III) was administered as part of the initial clinical assessment and is reported here due to its relevance to this study, as are Ms W's results from the Weschler Adult Scale of Intelligence (WASI), (Wechsler, 1999). The interpretation of the information gained from these assessment methods was examined as a whole, no one method being relied upon.

For this specific intervention the Speilberger State-Trait Anger Expression Inventory – II (STAXI – II), (Spielberg, 1996) was used to monitor and assess Ms W's level of anger and aggression. All pre intervention results will be used as a baseline measure. Whilst psychometric assessments are useful for identifying stable dynamic risk factors (Grubin, 2004) psychometric measures are heavily reliant on self-reported information which in itself is problematic, being highly vulnerable to impression management (Beckett, 1994). Therefore a weekly recording of Ms W's risk related behaviours was used as a measure of

treatment induced change. Additionally a rapport was built with Ms W prior to administering the psychometrics in an attempt to reduce any anxieties or fear. The rapport process included informal introductions, prolonged time spent in patient areas and attending her weekly MDT review meeting.

5.6 Psychometric Measures

5.6.1 Psychometric Assessment and Learning Disability

Until recent years there were very few standardised measures that could be used to assess the thoughts and feelings of people with learning disabilities – they were deemed just too complex (Clare & Murphy, 1998). Recently, however, some of the measures established for assessing anger within 'mainstream' forensic and clinical settings (e.g. the State–Trait Anger Inventory (STAXI) and the Novaco Anger Scale (NAS) have been adapted by adding explanations for particular words or phrases (e.g. adding to 'fiery temper' 'lose it altogether, go ballistic'), changing the wording of items while keeping the same meaning (e.g. changing 'people act like they are being honest when they really have something to hide' to 'people pretend they are telling the truth, when they are really telling lies') and simplifying the possible responses by changing the labels (e.g. 'a little bit' in place of 'somewhat').

Whilst some specialised learning disability services have adapted their assessments further by introducing pictoral cues and interpretations, no such material was available for use with Ms W, her and the other inpatients having to be assessed by the standardised assessments available within MH.

After discussion with the chartered supervisor and Ms W's reported literary ability, it was decided to administer the range of assessments with Ms W, offering her numerous breaks and continually checking her level of comprehension. Ms W was encouraged to ask for clarification when needed, her appearing to easily comprehend the questions asked. However,

as is pertinent with any learning disabled individual, assessment results need to be interpreted in the light of other information about the person. Therefore both scores and their relevance to Ms W's reported problems are next discussed.

5.6.1 MCMI-III (Millon Clinical Multiaxial Inventory-Third Edition.)

The MCMI-III is a 175-item self-report inventory, where the individual is required to respond True or False to the statements presented. The measure was designed to provide a measure of psychopathology and personality functioning, allowing clinicians to distinguish between acute clinical disorders under Axis I of DSM-IV and enduring personality characteristics of Axis-II. This assessment was administered to all individuals admitted to MH, when personality attributes were thought linked to their current presentation. With Ms W's diagnosis of borderline personality disorder it was thought relevant to administer the MCMI assessment to examine its severity and consequential effect on her behaviour.

The MCMI contains 175 questions, potentially taking some time to administer. To maximise her attention Ms W was offered a number of breaks, however she declined, completing the assessment in one session. Without prompting, she offered examples for some questions and highlighted that some questions were repeated though reworded. Ms W was therefore perceived as being able to comprehend the questions.

Results: Ms W obtained a clinically significant level on the Depressive scale on the Clinical Personality Patterns, which is at times what she has reported feeling. Her score on the Borderline scale fell within the prominent range, which is in line with her current diagnosis. This highlights that whilst treatment has been requested by the clinical team to target her verbal and aggressive outbursts, it is likely to be underpinned by emotional dysregulation which is characteristic of her diagnosis. This will therefore need to be incorporated into the treatment plan.

In addition, her scores on the Histrionic and Dependant scales fell within the prominent range, highlighting possible therapy interfering behaviours and the need to be aware Ms W may likely see the therapist as rescuer, expecting to have therapy done to her and not with her.

5.6.2 WASI (Wechsler Adult Scale of Intelligence)

This is a protocol widely used for the intellectual assessment of adults. It generates an 'intelligence quotient' – 'IQ', which is widely used in health, occupational and educational agencies as a reliable indicator of intellectual ability. It is often used as a screening assessment as it is made up of a subsection of the more encompassing Wechsler Adult Intelligence Scale (WAIS), which can often take a number of hours to administer.

As the WASI is an assessment of intelligence, there are norms for learning disabled populations. The assessment is therefore completed with all individuals admitted to MH so treatment can be attuned to their level of ability. Taking into consideration Ms W having already been diagnosed with a learning disability, she was again given additional opportunity to ask for clarification and extra breaks if needed.

Results;

- Verbal IQ - 75 [range 70-82: 95% confidence] 'Borderline' Range.
- Performance IQ - 66 [range 62-73: 95% confidence] 'Mild Learning Disabled' Range.
- Full Scale IQ - 69 [range 66-74: 95% confidence] 'Mild Learning Disabled' Range.

Overall, Ms W obtained a Full Scale IQ score = 69 which places her in the Mild Learning Disabled range of intellectual functioning. Her weaker performance score indicates she may have difficulty in planning and working in a logical order, in addition to having potential difficulties with gross motor co-ordination or visuo-spatial/perceptual difficulties. There is a significant difference between the component parts of the Full Scale IQ; therefore the Full

Scale score should not be interpreted as a meaningful representation of Ms W's overall performance. However, these results are concordant with her clinical diagnosis of a Mild Learning Disability with the planned psychological intervention needing to be planned in accordance with her level of functioning.

5.6.3 State-Trait Anger Expression Inventory; Second Edition (STAXI-2)

This inventory is designed to assess how an individual experiences and expresses anger. It measures two dimensions, state and trait anger. State anger refers to the emotional state experienced as anger, whilst trait anger refers to the disposition to perceive a wide range of situations as annoying or frustrating, and the tendency to respond to such situations with more frequent elevations in state anger.

Whilst this assessment does not have norms for learning disabled populations, it has been used in a number of studies as a measure of pre and post treatment change (Novaco & Taylor, 2004; Taylor, Novaco & Johnson, 2009)

Results; Ms W achieved elevated scores on all subscales of the assessment excluding the angry temperament scale on which, although her score was raised, it was not raised to a clinically significant level. This is in line with her daily presentation, as individuals with high angry temperament scores are quick tempered and readily express their angry feelings with little provocation. Ms W temper is noted as being provoked quickly from the slightest of frustrations or triggers. Ms W's most elevated scores were obtained on all four state anger scales. Individuals who obtain such scores experience intense angry feelings which are often situationally determined. They are also often both verbally and physically abusive behaviour, which, as the behavioural data will show, Ms W presents with on an almost weekly basis.

Elevated scores on all subsets of the STAXI in combination with Ms W's regular

aggressive outbursts indicate an intervention which targets anger control as a primary treatment need.

5.7 Risk Potential

Ms W has an established history of difficult and challenging behaviours. Since her admission to MH she has displayed a number of behaviours that research has identified as being predictive of violent recidivism (Quinsey et al., 2006). The table below indicates that Ms W presents as high risk of causing injury to herself and/or others.

Table 10. Risk Indicators of Ms W

Type of Risk	Description (guidance notes)	Recency
Absconding	High; Ms W has absconded on a number of occasions from MH, also jumping from an ambulance that was taking her to hospital.	January 2009
Substance Abuse	Low: No past or current history	
Physical Assault	High: Ms W has displayed assaultative behaviour towards fellow patients and staff on a number of occasions since her admission to MH.	January 2009
Sexual Assault	No apparent past or current history	
Sexually Offensive Behaviour	No apparent past or current history	
Use of Weapons	High: Regularly throws objects at staff when aroused also breaking furniture to use as weapons against staff and police	December 2008
Suicide Attempt	High; Engages in regular para-suicidal behaviours, at the time voicing she has the intention to die.	December 2008
Self- Injurious Behaviour	High; Engages in a range of self-injurious behaviours when she becomes aroused.	December 2008
Fire setting	Moderate; No recent fire setting behaviours observed, though index offence is one of arson and has additional fire setting convictions	
Damage to Property	High: Has caused severe damage to property, breaking windows and doors, also having broken	December 2008

Type of Risk	Description (guidance notes)	Recency
	both TVs on the unit after having thrown them.	
Verbal Threats/ Intimidation	High: She has displayed a high level of verbal aggression when challenged directed at staff and clients.	December 2008.
Theft	No apparent past or current history	
Abduction/ Hostage Taking	No apparent past or current history	
Non-compliance with Medication	Moderate: Although Ms W is thought to be compliant with her medication, she has threatened to overdose on secreted medication.	December 2008.
Vulnerability to Bullying	Low: No evidence.	
Vulnerability to Exploitation	Low: No current evidence, although she may be more vulnerable to more deviant peers.	
Vulnerability to Self-neglect	Low; No evidence, currently displays a good level of self-care	

5.8 Case Formulation

5.8.1 Functional Analysis

Functional Analysis is helpful in aiding clinicians to identify developmental and maintaining factors associated with particular behaviours. It views current behaviour as a function of two sets of variables. A functional analysis of Ms W's offending behaviour may be seen in the proceeding table.

Table 11; Functional Analysis of Ms W's Offending Behaviour

Antecedant	Behaviours	Consequences
• Sexual abuse from stepfather • Alcoholic mother • Parents divorcing • Alleged abuse from siblings	• Distrust of anyone who is 'in charge' • 'Rebel' against parents – shows neither of them respect	• Feelings of low self worth due to abuse • Emotional neglect from mother • Dislike of authority figures

• Sibling rivalry	➢ Aggression ➢ Disruptive ➢ Throwing objects ➢ Outspoken • Blaming parents for not looking after her – externalising difficulties • Isolating self • Learns to conceal emotions as they are not recognised/ responded to by others • Self harm	• Beliefs that others are against her – leads to hypersensitivity • Feelings of depression from being alone
• Lack of emotional achievement • Bullied at school	• Truanting • Hypersensitive • Social Isolation	• Lack of educational achievement • Reinforced negative beliefs re people in authority • Reinforced rejection
• Lack of positive social support network	• Antisocial beliefs and attitudes • Antisocial behaviour including physical attacks on police and arson • Offending behaviour	• Convicted for numerous offences • Spending long periods detained • Admitted to hospital for treatment for mental health difficulties • Reinforcement of negative attitudes towards police and mental health professionals ‘’they put me here’’

A single functional analysis was conducted on Ms W’s recent physical aggression and self harm, (which are labelled as self destructive behaviours) as by her own admission, the precipitating factors and the consequences of the majority of the behaviours have been similar.

Table 12; Functional Analysis of Ms W's self defeating behaviours

Antecedant	Behaviours	Consequences
• Difficult relationship with partner • Minimal contact with her children	• Self-injurious behaviours/suicidal ideation • Threats to self-injure • Destructive towards property	• Building barriers with partner • Reinforces feelings of rejection and low self esteem
• Unsettled Unit • Power struggle between patients on the unit • Not being heard or acknowledged by others • Being challenged by staff in relation to manipulative /aggressive behaviour • Not being granted requests by MDT	• Swear at staff/peers • Walk off • Verbally aggressive towards staff/peers • Threaten to physically assault staff/peers • Throw objects with the intent to harm • Abscond • Non-compliance	• Prolonged detention • Feelings of remorse and guilt • Building barriers with staff • Suspension of external leave • Increased attention and support from staff and peers. • Maintain power and sense of identity
• Learning Disability • Borderline Personality Disorder • Lack of emotional regulation skills	• Self-injurious behaviours/suicidal ideation • Threats to self-injure • Destructive towards property	• Shame and guilt • Sense of entitlement • Fear of rejection • No close bonds – reinforces feelings of rejection

5.8.2 Formulation

Formulation is a methodology used to assess behaviour and identify a relationship between an individual and their environment (Dudley & Kuyken, 2006). The methodology contributes towards an understanding of determinates of behaviour and its relationship with the environment. This leads to identification of an appropriate intervention focusing on the individualistic needs of the client (Dudley & Kuyken, 2006; Hanley, Iwata & McCord, 2003).

A Cognitive Behavioural Theoretical (CBT) framework of formulation will be used, as a guide to an understanding of Ms W's aggression and individual treatment needs. CBT draws on both cognitive and behavioural therapy to inform an understanding of the client's presenting problems. CBT allows for an identification of how perceptions/ cognitions shape emotions and behaviours. By identifying the interaction between these three elements, the framework specifies what maintains and what causes the presenting problems aside from the client, which may hinder treatment. Additionally the CBT approach permits detection of any resistance from the client which may hinder treatment. It also acknowledges the environment and the way in which the individual processes and perceives events. This CBT framework is a useful model as it accounts for why people may respond differently to the same stimuli and events.

Information collected from Ms W's medical documentation, reports, interviews, clinical notes, clinical interview and psychometric assessments has been collated in order to devise a formulation. The formulation will assist in an understanding of Ms W's presenting problems and how they might influence her aggressive and offending behaviour.

A diagrammatic representation of the development of Ms W's difficulties can be seen on the following page followed by a written formulation.

Relevant Life Experiences

- Middle child – 5 siblings
- Separation of parents
- Alcohol dependant mother
- Alcoholic and drug using step-father, rigid controlling, sexually abusive.
- Alleged abuse from siblings
- Developmental delays
- School outcast
- Abusive and conflictual relationships
- Adoption of her two children – now not wanting contact
- Impaired intellectual functioning
- Death of her parents

Dysfunctional assumptions and beliefs

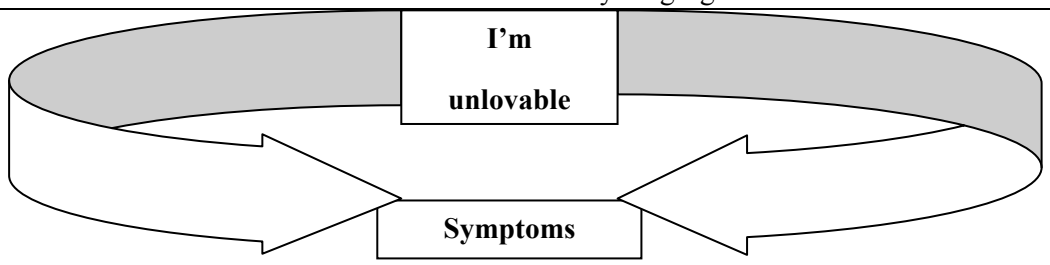
- Unless I stand out other people will reject me.
- Nobody wants me
- People have to like me otherwise they will hurt me.
- I have to protect myself as no one else will.

Critical Incident

- Rejection/perceived rejection – from father, mother, step-father, partner, siblings, children.

Negative automatic thoughts

- I'm a rubbish mother, that's why my children were taken off me and don't want to see me.
- I am a rubbish partner/daughter/sibling
- There's something wrong with me.
- I can't do anything right



Behavioural; Euthymic presentation, submissiveness, eager to please.
Motivational; Loss of interest and pleasure, everything an effort, procrastination.
Affective; Sadness, anxiety, guilt, shame, anger.
Cognitive; Poor concentration, indecisiveness, ruminations, self-criticism, mistrust.
Somatic; Excessive sleep, Loss of appetite.

Figure 2 - Cognitive Behavioural Formulation of Ms W

Ms W has a long history of violence and aggression and behaviours that challenge. These behaviours formed the basis of her detention, in addition to her acquiring a criminal record for assault and other violence related offences.

Throughout her childhood and early teenage years, Ms W was subjected to a chaotic and abusive lifestyle with minimal parental warmth or support. Ms W experienced recurrent traumatic experiences throughout her childhood including: the separation of her parents, limited contact with her father, alcoholic mother, sexually abusive stepfather, sibling rivalry and rejection and interpersonal difficulties throughout school. The dynamics of Ms W's family lifestyle meant that there was a lack of a supportive and validating environment in order to allow Ms W to develop skills so as to allow her to recognize and regulate her emotions. These factors may have cued the onset of her 'acting out' behaviours as with the apparent absence of any secure and validating parental figure during these key developmental stages, her core beliefs of being unlovable and worthless due to constant rejection may have been triggered.

As a child these behaviours may have served as a functional way for her to gain the support and attention that she craved. In relation to her behavior on the unit, after an aggressive incident has occurred, Ms W usually gains the required support and attention from the nursing staff resulting in positive reinforcement of her maladaptive behavior. The lack of appropriate parenting in combination with her abusive experiences, LD and BPD have lead to an inability in Ms W to recognize her emotional antecedents. This in turn has led to an inability to communicate her distress effectively and may have cued the onset of aggressive tendencies in Ms W.

Factors which currently impact on Ms W's distress relate to attachment difficulties combined with the loss of her parents, children and an early abuse history. This may have produced feelings associated with anger, guilt, shame and ambivalence towards each party.

The diathesis of these emotions may have led to Ms W experiencing a variety of distressing feelings which she finds difficult to cope with. For example, she voices a longing and desire to be reunited with her children, but also has associated feelings of hatred and anger towards them as they have rejected her. This in turn has an impact on her own feelings of shame, guilt and negative self worth. A lack of socio-emotional development stemming from Ms W's upbringing and the symptoms associated with her diagnosis will likely impact on her ability to verbally communicate this emotional distress and confusion.

Ms W appears to have felt rejected by a number of people in her life; mother, father, step-father, siblings, fellow school students, children, father of her children and possibly her current partner as she is often questioning his fidelity to her. These feelings of abandonment are often transferred onto members of the nursing staff. When she perceives her needs are not met she becomes aggressive or self harms, immediately blaming her actions on staff. Ms W constantly tests nursing staff's attachment to her for example by asking them to ring A&E, or to take her on external leave upon request. If they refuse Ms W appears to take this as them not caring about her physical wellbeing, reinforcing her core beliefs and feelings of self-worth, leading her to be more likely to harm them by physical assault to communicate her discontent.

A diagrammatic representation of the maintenance of Ms W's self defeating behaviour's can be seen on the following page.

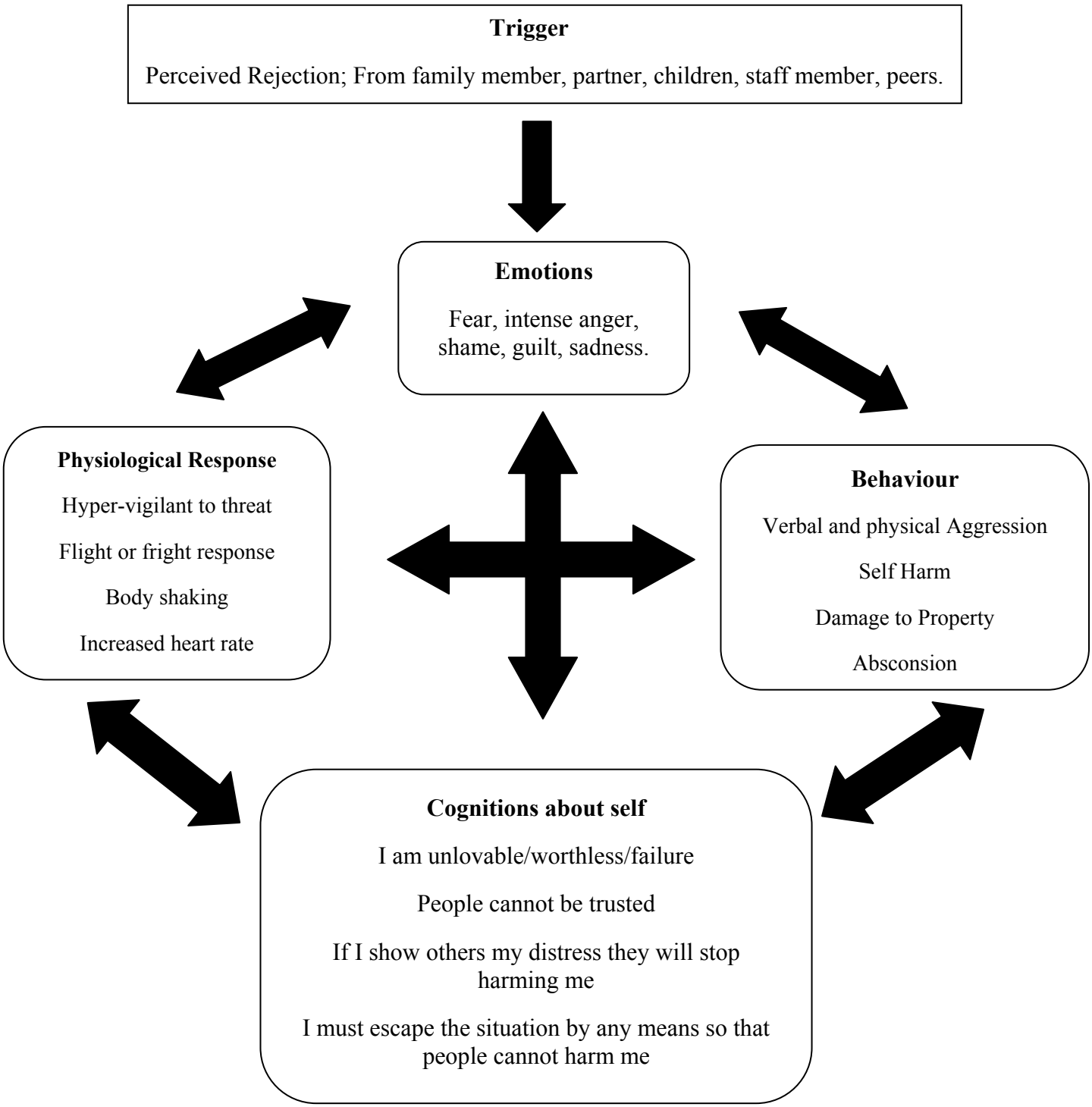


Figure 3; Maintenance cycle of Ms W's Self Defeating Behaviour

5.9 Conclusions and recommendations for intervention

From the detailed assessment of Ms W, it can be seen that both her offending and self defeating behaviours are a consequence of her learning disability and personality disorder.In particular her apparent inability to regulate her emotions and her early life experiences may have led her to feelings of depression, low self worth, and being untrusting of others.

Ms W therefore has a number of interrelated treatment needs, being likely to benefit from a range of cognitive and behavioural strategies and interventions. However, it is unlikely behaviour that has been functional for a number of years will be amenable to change within a short period of time. The restricted time limit of the placement will therefore need to be considered, with it not being viable that all treatment objectives can be completed within the given time. The areas of outstanding treatment need have been identified as follows;

5.9.1 CBT based 'Anger Management; It appears Ms W lacks the skills to control her emotions, though only by being able to recognise her emotions can she be assisted in learning how to manage them. Therefore a treatment programme which facilitates both psychoeducation with a component of 'anger management' is felt best suited for Ms W at the present time. It will also serve to strengthen the therapeutic relationship and being structured, serve to assist in further defining the treatment pathway of Ms W, factors such as her level of insight into her difficulties and her level of engagement being able to be continually assessed.

Ultimately, completion of this first stage of treatment should allow Ms W to develop the relevant emotional control for her to engage in further treatment which targets her attachment and abuse related issues. Ultimately it is envisaged that supplying Ms W with appropriate skills to allow her to control her emotions will, in turn, reduce both her aggressive outbursts and her risk of reoffending.

5.9.2 Dialectical Behaviour Therapy; Ms W has a range of complex emotional and behavioural needs resulting from childhood abuse and perceived rejection. This has led to developmental and personality difficulties, accumulating in a diagnosis of borderline personality disorder. Intervention to modify these characteristics and deal with the attachments issues experienced by Ms W should be measured over several years. Dialectical behaviour therapy is a broad-based, cognitive-behavioural programme developed specifically to address emotional regulation, acting out behaviours and attachment related issues in women with borderline personality disorder (Linehan, 1993) is therefore recommended as an outstanding treatment need.

As detailed in chapter two, DBT is a long term and intensive intervention, the full completion of the programme not being viable within the timeframe available. As is recommended within the Dialectical Behavioural Model, Ms W needs to address her therapy-interfering behaviours prior to its commencement; therefore anger management is still recommended as the initial treatment plan.

5.10 Intervention

Through discussions with the Chartered Supervisor, it was agreed the intervention to assist Ms W in developing control over her anger and aggression would run weekly, using 60 minute therapy sessions. Based on theory suggesting that brief CBT can be beneficial and have a positive impact upon clients, (Curwen, Palmer & Ruddell, 2003) the number of therapy sessions deemed necessary to complete the work was estimated to be between ten and twelve. This is flexible and subject to change dependent upon the responsivity issues and learning pace of the patient.

Evidence suggests that CBT approaches in anger treatment are more effective at reducing aggression in the LD population when compared to pharmacological interventions

(Allen et al., 2001; Lindsey et al., 2003; Lindsey et al., 2004; Novaco & Taylor, 2004; Taylor, 2002). More specifically, detained offenders with LD can benefit from intensive individual cognitive behavioural anger treatment (Taylor et al., 2001; Taylor el al., 1995). CBT has traditionally also been used successfully in treatments which encourage an LD individual to gain an understanding of their mood and learn skills for coping with the causes and symptoms of their mood (Williams & Jones, 1997). Therefore a cognitive behavioural framework including a psycho-educational approach will be used to facilitate the majority of the intervention.

Ms W also appears to have little tolerance to her frustrations, her aggressive outbursts appearing to be largely reactive to any such distress or feelings of overwhelming emotions. As already discussed, DBT is not a viable treatment option, however mindfulness which is a core component of DBT has also an evidence base in its own right in controlling aggression. (Singh, et al., 2007; Heppner, et al., 2008). Therefore mindfulness exercises taken from the relevant modules of Dialectical Behaviour Therapy will be practiced in the latter part of every session to assist Ms W in the regulation of her emotions.

Managing and Monitoring Challenging Behaviour; To support staff in monitoring and managing challenging Ms W's behaviour a 'behaviour monitoring checklist' has been developed and introduced into the daily monitoring of her behaviour. This protocol provides guidelines to staff on how to monitor and accurately record behaviour information (positive and negative). In addition, an Antecedents, Behaviour, and Consequences (ABC) model is to be completed following any incident of inappropriate behaviour which provides management and intervention information for future events. These behaviours are to be managed as part of a behavioural contingency programme rewarding positive behaviour. These behaviours are monitored on a daily basis by unit staff and provide the behavioural monitoring data so as her specific risk behaviours and overall presentation can be compared over set periods of time.

Table 13

Individual Session Plans

1	Administration of Pre Psychometric assessments. Devise initial goals and aims of treatment. Check and identify any possible therapy interfering behaviours. Discussion of boundaries and rules. Anger diary. Purpose of treatment and the content of the first six sessions.
2	Review previous session, homework and anger diary What is anger? Distinction of anger and aggression. Mindfulness based task – Bubbles as thoughts. Homework – Misconceptions of anger.
3	Review of previous session, homework and anger diary. Anger as a normal emotion Mindfulness based task – resisting urges. Homework – Appropriate and non-appropriate uses of anger.
4	Review of previous session, anger diary and homework. Physiological arousal and early warning signs. Mindfulness based task – Distress tolerance 1 Homework – Ms W's physiological arousal signs.
5	Review of previous session, anger diary and homework. Distraction as a coping strategy. Mindfulness based task Homework – Ms W's preferred distraction techniques.
6	Review of previous session, anger diary and homework. Relaxation and naming of emotions. Mindfulness based task Homework – Practice and feedback preferred technique.
7	Review of previous session, anger diary and homework. What makes us angry (external factors) Mindfulness based task Homework – Ms W's triggers to her anger.

8	Review of previous session, anger diary and Homework What makes us angry (internal factors) Mindfulness based task Homework – Emotion recognition task.
9	Review of previous session, anger diary and homework. Body Language and thought changing exercises. Mindfulness based task Homework – Record usage of appropriate body language.
10	Review of last session and homework. Review of goals set at beginning of therapy Review all anger diary sheets Post Psychometrics **SESSION WAS NOT FACILITATED DUE TO Ms W's EMERGENCY RETURN TRANSFER TO MEDIUM SECURE SERVICES.**

5.11 Presentation in sessions

Ms W attended all sessions, was ready and prepared, and completed all between session work that was asked of her. Furthermore she requested additional meetings and asked to be given extra homework. This level of motivation was also evident within the sessions. This desire to appear keen to please and present herself positively is possibly as a result of her early life experiences, that if she did not respond or behave in the correct way she was severely punished. In addition, her desire for secure attachments and the view of therapist as 'rescuer' could also be a factor in her presentation.

5.12 Post intervention assessment

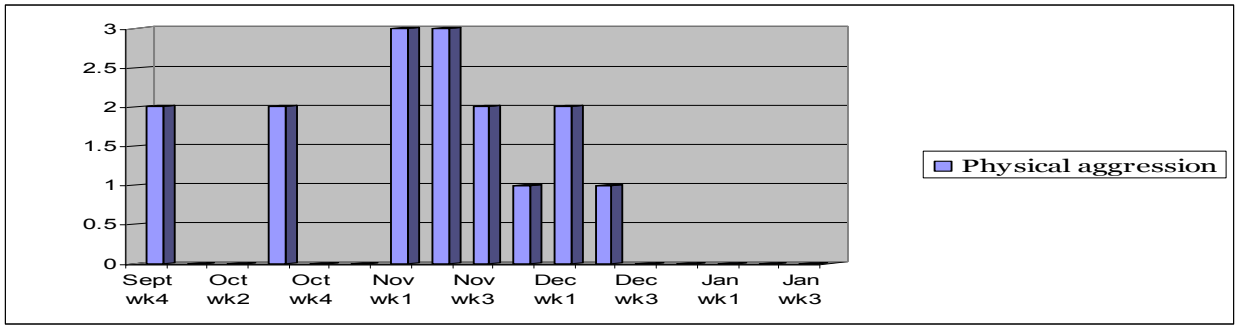
Ms W was transferred as an emergency admission to a medium secure service the day prior to the last planned session. Her removal was due to the severity of her behaviour on one occasion. This involved Ms W causing significant damage to property, in addition to

physically assaulting both nursing staff and police officers who had been called to assist with the incident. Therefore, no post- intervention psychometrics were administered.

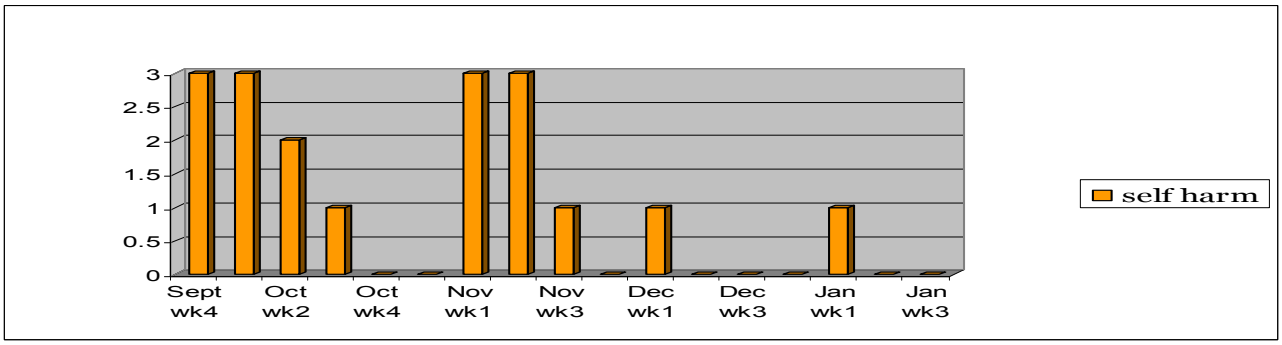
To give some indication of treatment change, behavioural monitoring data for Ms W's identified risk behaviours are included. This covers the periods of the psychological intervention.

Figure 4 – Behavioural Monitoring Data.

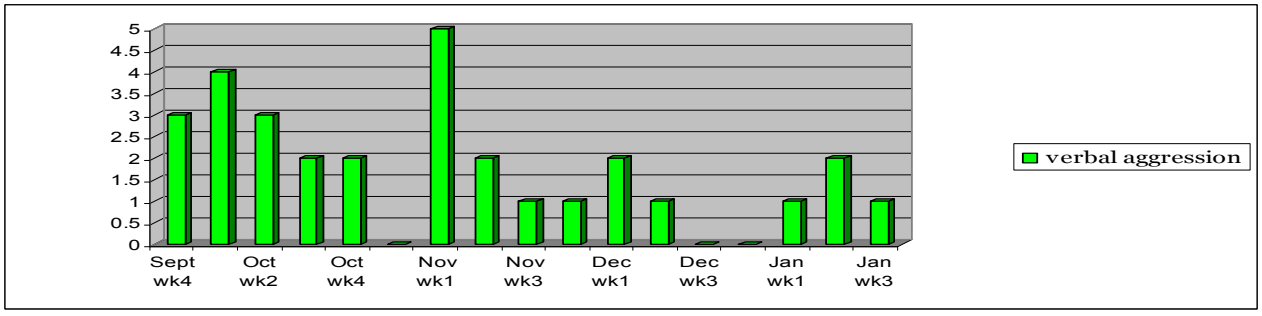
Physical Aggression



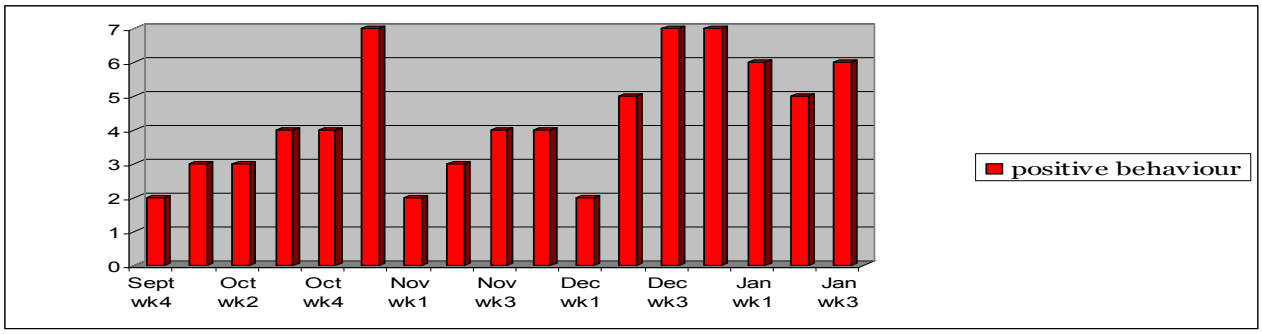
Self Harm



Verbal Aggression



Positive Behaviour



5.13 Interpretation

The data above show Ms W's presentation from the date of the commencement of the therapeutic intervention to the week of her emergency transfer to a medium secure environment. Ms W remained physically aggressive throughout the first half of the intervention however to her credit there were no recorded acts of physical aggression in the last two months of her treatment. There was also a marked decrease in incidents of verbal aggression and self-harm, with Ms W having one episode of self-injurious behaviour in the last six weeks of treatment in comparison to nine incidents in the same period at the commencement of the intervention. What these data do not show is the intensity of her aggression and the severity of her behaviour which ultimately led to her return to a medium secure service.

Outstanding Treatment Needs

Whilst the sessions attended by Ms W highlighted that she has the ability to develop therapeutic relationships with professionals and has some level of motivation to attend to her problems, the treatment needs indicated at the beginning of the intervention largely remain.

Her transfer to a higher secure environment due to her unmanageable levels of aggression imply work assisting Ms W control her anger and aggression is still needed,

highlighting also the unlikelihood of this being obtained within the number of sessions planned for this study.

Once an acceptable level of emotional control is achieved, it is advised Ms W complete further work in relation to her attachment and early abuse issues which are likely to drive her emotional instability and observed levels of distress. It is recommended this be addressed through her completion of the full DBT programme, ideally with a single therapist due to her hypersensitivity to perceived rejection.

5.14 Discussion

The purpose of this study was to assess the effectiveness of a CBT approach with an individual with a diagnosis of mild learning disability and borderline personality disorder. The aim was to increase her ability to tolerate and regulate her anger, thereby reducing her risk of further offending. A formulation and functional analysis along with pre treatment psychometric assessment revealed specific treatment needs to form the basis of Ms W's treatment.

Based on literature, assessment and formulation it was apparent that Ms W lacked the ability to tolerate and manage her emotions, resulting in frequent incidents of aggression violence and self harm. The literature suggests that CBT approaches are most successful in working with the LD population when compared with other theoretical frameworks (Allen et al., 2003; Dragnan & Chadwick, 1997; Lindsay et al., 2003; Lindsay et al., 2004; Novaco & Taylor, 2004; Taylor, 2000). Therefore a therapeutic intervention addressing Ms W's emotional tolerance and regulation using primarily a CBT approach with the implementation of a behavioural modification plan to externalise the intervention to Ms W's wider environment was implemented.

The individual therapeutic work addressed emotional identification and management with a component of mindfulness techniques. These latter techniques were applied as the literature demonstrates that such skills are useful in increasing tolerance of distressing situations and emotions. The plan being that after this study had been completed to continue with assisting Ms W in increasing her skills to cope with such situations and self defeating feelings.

The effectiveness of the intervention was planned to be assessed primarily by the use of pre and post treatment measures, though due to Ms W's emergency transfer to a more secure environment the post intervention psychometrics could not be administered. Therefore, there is no such measure of treatment induced change.

Behavioural data collated indicate since the commencement of treatment there has been a marked reduction in incidents of self-harm, physical and verbal aggression with a consequential increase in positive behaviours displayed by Ms W. Albeit, the intensity and severity of Ms W's aggression are not represented in the graphical data, the level of damage and risk she posed on one specific incident being so great it led to her permanent removal from the unit. This indicates Ms W had a chronic inability to regulate her emotions which is in line with her disordered personality, therefore requiring long term intensive intervention to address her diagnostic related symptoms.

There is also evidence to suggest behavioural patterns or thinking processes that have been in operation for a number of years will not be changed within the space of a few weeks, particularly if the patient has complications such as co-morbidity or it is their first contact with psychological services (White, 2001). It is therefore unlikely that a significant change in Ms W's core beliefs would have occurred by the planned end of the intervention. However, the intervention was effective in providing an introduction to the process, in addition to

developing a level of trust with an individual who, by diagnosis, can be both hypersensitive to rejection and mistrusting.

Additionally, the level of change cannot be solely attributed to the intervention as it is most probable that external circumstance will have contributed to the observed change. During the treatment period Ms W began to gain more access to the local community which while giving her a sense of achievement and self worth could also have made her feel less secure and contained, a feeling associated with the emotional instability in BPD individuals. Ms W had also only been admitted to MH a month prior to starting treatment, therefore her reduction in acting out behaviours may be due to staff feeling more comfortable in approaching her, additionally Ms W feeling more able to utilize staff support when distressed.

5.15 Conclusions and Recommendations

Despite Ms W's removal from MH and her limited progress in terms of reduction of risk, her progress when considered within the context of a LD and BPD population was highly commendable. She attended every session and appeared engaged throughout both the assessment and treatment process. Clearly, this is still an early stage for Ms W. Both CBT anger management and emotional regulation work are recommended to continue to maximise progress and achieve an outcome which can be sustained.

This study has provided insight into the problematic nature of assessing and treating co-morbid LD and BPD individuals and the correlation of their associated symptoms and treatment needs. Whilst there are specific assessments and therapies for BPD individuals, future developments into LD offenders, specifically work on emotional regulation and violent behaviour, should focus on the development, and standardisation of psychometric

assessments. Such tools will serve as valid and effective instruments, to be used in conjunction with risk assessments and measures of treatment effectiveness and change.

The chapters in this thesis have examined a range of issues pertinent to the assessment and treatment of violence in personality disordered offenders. The following concluding chapter discusses the implications of these findings before closing with recommendations for future research and therapeutic practice.

Chapter 6 - Discussion

6.1 Presentation of findings

The purpose of this thesis was to examine the treatment and assessment of violence in personality disordered offenders. Both areas have developed into central tasks of professionals working with diagnosed offenders within both secure settings and the community.

This investigation began by reviewing the current literature regarding the effectiveness of DBT with inpatients diagnosed with borderline personality disorder. The findings of the review following a systematic approach in Chapter 2 indicated eight studies of appropriate quality to be included in the review. Overall, the impact of DBT on inpatients with borderline personality disorder appears to be promising. However, the review highlighted a number of methodological differences between studies therefore caution is recommended in interpreting findings.

Investigation of the HCR-20 in Chapter 3 established good levels of reliability with inter-rater reliability indices predominantly found to be above the required level of 0.80. Research revealed the HCR-20 risk assessment indices as predictive of inpatient and community violence by forensic populations, the clinical items being most strongly related to aggression. The HCR-20 has also evidenced equivalent, if not stronger predictive validity in relation to other measures, for example the PCL-R. However, the HCR-20 requires further cross-validation studies or generalisability research on a range of differing forensic populations (especially UK samples, prison populations and female offenders) and settings to validate its use further.

One of the aims of the empirical paper in Chapter 4 was to establish the level of imminent risk posed by dangerous and severe personality disordered individuals, there being minimal research in respect of this under studied offender group. In an attempt to demonstrate a link between violent risk and severity of personality disorder, HCR-20 scores, institutional aggression and self harm were compared across personality disorder services of a high secure hospital. Statistically significant differences were found between groups, with the DSPD sample displaying significantly more overall incidents of institutional aggression and self harm. Additionally, the paper examined the HCR-20's ability to distinguish between the two sample groups, the findings of the study indicating the HCR-20 was able to discriminate between personality disordered populations.

The included case study in Chapter 5 highlighted the problems attributed to measurement of personality disordered symptomology. Whilst Ms W's behavioural monitoring data indicated an overall reduction in incidents of self harm and aggression, the patient was transferred as an emergency admission to a more secure unit due to the severity of her violent behaviour. This behaviour was present from the time of her admission, leaving questions as to the accuracy of her admission assessment and ultimately her predicted level of imminent risk.

All chapters serve to highlight the complex and often multifaceted nature of the assessment and treatment of violence and aggression in personality disordered offender populations, regardless of setting, diagnosis or level of risk.

6.2 Contributions of thesis to current literature

The current thesis made several contributions to the existing literature. Specifically, it has investigated the link between personality disorder and violent risk in male inpatients with a

diagnosis of dangerous and severe personality disorder and a female offender with borderline personality disorder and learning disability disorder.

The systematic review in Chapter 2 indicated there having been no previous meta-analysis or systematic approach in respect of DBT within an inpatient or forensic population. Therefore the current research has made a unique contribution to the literature as it relates specifically to inpatient samples. By indicating the treatment as having some positive treatment effects within inpatient settings, the review offers some substantiation to both the application of DBT within these environments whilst also highlighting the need for additional research.

DBT is becoming increasingly implemented within a range of services. However, there appears no apparent universal and routine approach to assessing the programme as a whole. The intervention also appears to be increasingly pooled with other therapies (highlighted by the small number of studies included in the review), again complicating both its application and evaluation. For DBT to remain of use to both forensic and general clinical populations further research is needed to determine whether it remains an intervention in its own right or should be applied in collaboration with other approaches.

The preceding empirical paper examined the link between severity of personality and violent risk. No apparent comparative study or exploration of imminent risk within the dangerous and severely personality disordered patient group appears to have so far been completed. Such research is needed to form a baseline of both imminent and future risk within this offender group to allow further studies to occur. This is of relevance not only to investigate and determine the actual level of risk this group pose but to also validate research that is currently being undertaken in relation to the detained DSPD population. Whilst it was not the sole intention of this paper to investigate the utility of the HCR-20 within a DSPD

population, the included study has shown promise for the application of the HCR-20 within this patient group. Addressing the area of institutional risk and its measurement within the DSPD patient group highlights it as an outstanding research need.

The psychometric critique contributed to the limited evidence base of the tool. Whilst the chapter indicated the tool had good reliability and validity in a range of forensic and clinical population, studies in relation to the HCR-20's overall application are limited, this study making a relevant addition to the literature. Due to the increased usage of actuarial measures within forensic clinical practise, continual evaluation of the relevant actuarial tools is paramount.

The case study in Chapter 5 highlights the complications of co-morbidity in relation to both the assessment and treatment of personality disordered offenders with learning disabilities. The exploration of literature in relation to co-morbidity of learning disability and PD revealed confounding research, this single case therefore highlighting the need for further investigation into the relationship between these two areas. The case study also serves to emphasise the difficulty of working with BPD diagnosed individuals, and the complexity of managing and monitoring self destructive behaviour within inpatient settings. Whilst the frequency of Ms W's aggression and self injurious behaviour had decreased, therefore potentially highlighting progress in her presentation, the intensity of one incident led to her removal to a more secure environment. Despite having a detailed admission assessment, the intensity of her behaviour appeared not to have been correctly predicted, highlighting the need for ongoing research to enable patients to be correctly placed in the future.

6.3 Limitations of this thesis

There are several limitations of this thesis that are pertinent to both the overall field of violence and personality disorder research.

The systematic review emphasised a number of methodological discrepancies and biases that would limit the generalisability of not just those papers included but also the complete review. In addition, the number of relevant papers included in the systematic review was relatively small (n=8), therefore, leaving the relevance of the findings questionable. It may have been useful for the systematic review to have included broader criteria such as unpublished work and non English publications. This was not completed due to limitations in respect of resources, one individual having completed the full review, this in itself being a threat to validity. Again, due to resource limitations the quality assessment of both the previous review and applicable studies were not pro-rated, merely serving to limit the findings further.

Another limitation of note is that within the review there were combinations of forensic and non forensic environments, the results therefore being combined for both offenders and non offender groups. This makes the relationship between treatment efficacy for the two groups unclear, any potential differences between the two not having been examined. Whilst the review is not without its limitations, these serve to highlight the problems of measurement bias, definition and co-morbidity, all predominant issues in relation to both personality and violence research.

The empirical paper serves to highlight a predominant problem within violence research, namely the definition of violence. Some studies define violence as physical attacks against a person or persons, whereas others incorporate verbal aggression, such as threats, and physical violence perpetrated against property or animals into their definition of what constitutes violence. Therefore it can be difficult to compare research findings, as studies use a wide variety of behaviours as an indication of violent behaviour and recidivism (Freedman, 2001).

Whilst Chapter 3 examines all relevant research in relation to the predictive validity of the HCR-20, these findings are insufficient to be generalised to female, UK and personality disordered offenders. Some individual papers addressed the application of the HCR-20 within these differing offender groups, but the amount of research is limited, and as a result the finding should be interpreted and applied with caution.

In relation to the included empirical paper in chapter 4, the sub-definitions of violent and aggressive behaviour were based on previously devised definitions within the department amended for the purposes of the study. Whilst this lack of empirical support for the definitions of behaviour limits comparison of results with similar studies, a good level of inter-rater agreement was achieved in an attempt to minimise the effect of this.

Only one form of outcome was utilised for the purpose of the study, meaning the paper may not have had a true representation of behaviours, as only those observed and recorded by staff were included. Furthermore, iatrogenic, environmental and contextual issues have not been discussed, therefore their effects on the findings are largely unknown at this time.

In relation to the intervention in the included case study in chapter 5, the timeframe over which sessions took place was relatively short, with it being unlikely behavioural patterns or thinking processes developed over a number of years will have changed within a few weeks. It would therefore be unfair to generalise the problems encountered with this individual to other offenders with a similar diagnosis without further investigation of a larger sample group. It also serves to highlight the need for additional research in the area of co-morbidity and appropriate ways to manage and treat both elements of the diagnosis need to continue to be balanced.

6.4 Clinical implications

This thesis highlights a number of areas professionals need to be mindful of in relation to their assessment and management of personality disordered offenders within routine clinical practice.

Dialectical Behaviour Therapy is a resource intensive intervention both financially and in respect of staff time and motivation. The systematic review (chapter 2) did not uncover any previous reviews regarding the facilitation of DBT outside of a community setting. Therefore due to its limited evidence base within inpatient settings, clinical teams may have been reluctant to implement the treatment with alternate populations or environments due to the apparent lack of empirical evidence. The range of papers, albeit small, included in the review indicates the possibility of implementing the treatment within differing inpatient settings and with varying service user group.

The review also highlights the importance of the appropriate and systematic completion of measures of post treatment change, ideally by clinicians outside of the individuals care. Whilst this is paramount to enable much needed research to evaluate the programme as a whole, it should be part of routine clinical practice so as to guide an individual's assessment of risk and shape their future package of care.

The empirical paper offers considerable substantiation to professionals working with DSPD diagnosed individuals. Establishing the elevated risk this offender group poses highlights the need for clinical teams to continue to focus on risk in relation to treatment, management and assessment. The findings also indicate that dynamic/relational security within DSPD units should be maintained at levels commensurate with the assessed risk. Rules, procedures, the provision of appropriate care and clinical treatment need to be continued to be balanced against the safety of the public, staff and the patient.

Whilst the psychometric critique indicates the HCR-20 as having good levels of validity and reliability within clinical settings, professionals need to be aware of the benefits and limitations of current risk assessment instruments. In addition, they need to be cautious about over-reliance on such measures, instead using them judiciously as part of a structured decision making process (Hart, 1998), within a multi-disciplinary approach to risk assessment and case management.

The case study indicates the challenges of working with personality disordered offenders, highlighting the problematic nature of dealing simultaneously with both clinical and criminogenic need. Whilst Chapter 5 offers little in the way of guidance in relation to treatment structure or successful treatment outcome, it serves to emphasise problematic behaviours often encountered when working therapeutically with personality disordered offenders.

6.5 Implications for Further Research

The contradictory evidence base in relation to the assessment and treatment of personality disordered offenders is apparent. Basic descriptive research is needed, including epidemiological studies of the prevalence of personality disorder amongst offenders in addition to further exploration of the relationship between personality disorder and criminal and violent behaviour. Studies should ultimately attempt to determine whether reductions in crime and violence are contingent upon reductions in personality disorder symptomology.

The systematic review indicated Dialectical Behaviour Therapy as having a positive effect on the maladaptive behaviours of borderline personality disordered inpatients. However, the review highlighted a number of issues pertinent to both the interventions assessment and implication that require additional investigation. A number of studies examined were not of appropriate quality to be included in the review, indicating further

randomised control trials with appropriate comparators are needed to validate the intervention further. A significant amount of papers were excluded due to confounding factors, which would need to be controlled for in further research. Whilst the implication of the varying treatment change measures has been discussed, it is noted they have all been devised to measure differing constructs, therefore their suitability as a measure of treatment change within DBT is questionable. Research is needed to investigate this further, with the possible overall aim being to devise a measure appropriate to the constructs targeted by the treatment.

The HCR-20 is one of a number of assessments found to have good levels of validity and reliability in relation to the measurement of risk. However, the critique highlighted the need for further research on its application within forensic settings, especially those within the UK. Specifically, there appears to be minimal research on the validity or reliability of the assessment with personality disordered groups. Any research in relation to the application of the HCR-20 within either PD or forensic settings would therefore be beneficial.

With the DSPD concept in its infancy, there is minimal research in respect of this offender group, the empirical paper appearing to be the first to investigate the level of imminent risk this group pose. Therefore, any further research in respect of the assessment treatment or management of this offender group would be beneficial. Only when high quality research is conducted can risk amongst the DSPD subgroup be interpreted, predicted and treated.

The case study in Chapter 5 highlights the problematic nature of risk assessment with personality disordered individuals, with research needed to validate the range of psychometric tools used with this offender group. This single case highlighted the need for further investigation into co-morbidity, not merely between personality disorders but with other psychiatric diagnoses. In relation to this case it was hard to distinguish the primary

cause of behaviour (LD or BPD), therefore research is needed which looks at levels of primary and secondary diagnosis to enable practitioners to identify immediate treatment needs and to shape intervention accordingly.

Whilst traditional treatments have been shown to have their place for single diagnoses or symptoms such as emotional regulation, problem solving skills, perspective taking and challenging antisocial thinking and values, there appear considerable gaps in the relevant scientific literature in relation to treatment options for those with multiple or dual disorders.

6.5 Conclusion

Historically, personality disorder, assessment of violence and high risk offending tend to have had relatively separate scientific literatures. As a result, the relationship between them remains poorly understood. The amalgamation of all three areas is necessary to allow the important concepts and relevant models to come together to devise a scientifically credible approach to assessment, treatment and evaluation of this specialised offender group.

We are clearly still a considerable distance from a truly effective, comprehensive assessment and treatment process for personality disorder, especially for those detained within the criminal justice or mental health system. This thesis also indicates that defining and accurately assessing severity of personality disorder is problematic. Whilst this thesis has not examined individual personality disorders relationship with violence and/or aggression, it is apparent from recent research that whilst some PD's, namely antisocial, paranoid, borderline, narcissistic and histrionic are associated with criminal and violent behaviour, others, in particularly obsessive-compulsive are not (Howard et al., 2008). Until this is clarified the causal relationship between PD and violence remains unsubstantiated.

It is clear that there is much work to be done in clarifying definitions and refining methods of measurement, this applying to both personality disorder and personality traits. Diagnostic overlap, focusing research only on clinical or offender populations, and confounding variables are all sources of confusion. Clarity will be achieved partly by better empirical identification of sub-types of personality disorder and the design of new assessments that can differentiate between them.

In the meantime, this thesis highlights that much can be done to change related behaviours and improve quality of life for the service user, whilst still maintaining public protection. A comprehensive programme is required to offer the structure needed to treat personality disorder while being sufficiently flexible to accommodate new findings.

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Appendix A

Review Assessment Form

Existing Review Assessment Form

1. Did the review ask a clearly focused question? Y N/S N

   1.1 Population

   1.2 Intervention

   1.3 Comparator

   1.4 Outcome

2. Did the review include the right types of study? Y N/S N

   2.1 Study design

   2.2 Address the review question

3. Were all relevant studies identified? Y N/S N

   3.1 Bibliographical databases

   3.2 Gateways

   3.3 Contact with experts

   3.4 Reference lists

   3.5 Unpublished studies

   3.6 Non-English Language studies

4. Was quality assessment completed on the included studies? Y N/S N

   4.1 Scoring system

   4.2 multiple assessors

5. Are the results generalisable? Y N/S N

   5.1 Are they applicable to any similar populations?

   5.2 Are there settings in which the results would be inaccurate?

6. Were all relevant outcomes considered? Y N/S N

   6.1 Individuals

   6.2 Professionals

   6.3 Policy makers

   6.4 Community

7. Do the results suggest that changes should be made Y N/S N

   7.1 To policy governing such constructions

   7.2 To professional practice

Appendix B

Systematic Review Search Syntax

Medline Search Syntax (1975 to June week 1 2007, completed on the 21st June, 237 hits)

1. (borderline personality disorder adj3 (treatment or therapy) .mp. [mp=title, original title, abstract, name of substance word, subject heading word]
2. (Self injur$ behavio$ adj3 (treatment or therapy) . mp. [mp=title, original title, abstract, name of substance word, subject heading word]
3. (Self harm$ adj3 (treatment or therapy) . mp. [mp=title, original title, abstract, name of substance word, subject heading word]
4. Parasuicide adj3 (treatment or therapy) . mp. [mp=title, original title, abstract, name of substance word, subject heading word]
5. (patient) adj3 (treatment or therapy) . mp. [mp=title, original title, abstract, name of substance word, subject heading word
6. (dialect$ behavio$ therapy adj3 (treatment or therapy) . mp. [mp=title, original title, abstract, name of substance word, subject heading word
7. (emotion$ regulat$ adj3 (treatment or therapy) . mp. [mp=title, original title, abstract, name of substance word, subject heading word
8. treatment. mp
9. intervention .mp. or intervention studies
10. self harm. Mp or exp Self harm
11. exp Behavior Therapy/ or exp Cognitive Therapy. mp
12. exp Cognitive Therapy/ or group therapy. mp. or exp Behavior therapy
13. Rehabilitation . mp or exp Rehabilitation
14. exp Risk Assessment/ hospitalization . mp
15. hospital$. mp. [mp=title, original title, abstract, name of substance word, subject heading word]
16. relapse . mp. [mp=title, original title, abstract, name of substance word, subject heading word]
17. mental health . mp. [mp=title, original title, abstract, name of substance word, subject heading word]
18. referral.mp [mp=title, original title, abstract, name of substance word, subject heading word]
19. 1 or 2 or 3or 4 or 5 or 6 or 7
20. 8 or 9 or 10 or 11 or 12 or 13 or 14
21. 13 and 15
22. 11 and 15
23. 11 and 13 and 15
24. 17 and 18
25. 21 and 24
26. limit 25 to english language

PsychINFO Search Syntax (1977 to June week 1 2007, completed on the 3rd June, 980 hits)

1 (borderline personality disorder adj3 (treatment or therapy) .mp. [mp=title, abstract, subject heading, table of contents, key concepts]
2 (Self injur$ behavio$ adj3 (treatment or therapy) . mp. [mp=title, abstract, subject heading, table of contents, key concepts]
3 (Self harm$ adj3 (treatment or therapy) . mp [mp=title, abstract, subject heading, table of contents, key concepts]
4 (Parasuicide adj3 (treatment or therapy) . mp. [mp=title, abstract, subject heading, table of contents, key concepts]
5 (patient) adj3 (treatment or therapy) . mp. [mp=title, abstract, subject heading, table of contents, key concepts]
6 (dialect$ behavio$ therapy adj3 (treatment or therapy) . mp. [mp=title, abstract, subject heading, table of contents, key concepts]
7 (emotion$ regulat$ adj3 (treatment or therapy) . mp. treatment. mp [mp=title, abstract, subject heading, table of contents, key concepts]
8. exp TREATMENT OUTCOMES/ or exp TREATMENT EFFECTIVENESS EVALUATION/ or exp TREATMENT DROPOUTS/or exp TREATMENT/ or treatment m.p. or exp TREATMENT DURATION/ or exp TREATMENT COMPLIANCE/
9. intervention/ or exp at risk populations/ or exp rehabilitation/ or exp treatment/
10. self harm. Mp or exp Self harm
11. exp Behavior Therapy/ or exp Cognitive Therapy. mp
12. exp Cognitive Therapy/ or group therapy. mp. or exp Behavior therapy
13. exp REHABILITATION . mp or exp COGNITIVE REHABILITATION
14. exp Risk Assessment/ hospitalization . mp
15. hospital$. mp. mp. [mp=title, abstract, subject heading, table of contents, key concepts]
16. relapse . mp. [mp=title, abstract, subject heading, table of contents, key concepts]
17. mental health . mp. [mp=title, abstract, subject heading, table of contents, key concepts]
18. referral.mp mp=title, abstract, subject heading, table of contents, key concepts]
19. 1 or 2 or 3or 4 or 5 or 6 or 7
20. 8 or 9 or 10 or 11 or 12 or 13 or 14
21. 11 and 13 and 15
22. 17 and 18
23. 21 and 24
24. limit 25 to english language

Cochrane Search Syntax (1950 to June week 1 2007, completed on the 21st June, 38 hits)

 # 1 patient in **All Fields** and **personality disorder*** in **All Fields** or **self harm** in **All Fields** in **CENTRAL**

 # 2 dialectic* behavio* therapy in **All Fields** and **personality disorder*** in **All Fields** or **self harm** in **All Fields** in **CENTRAL**

 # 3 emotion* regulat* in **All Fields** and **personality disorder*** in **All Fields** or **self harm** in **All Fields** in **CENTRAL**

 # 4 treatment in **All Fields** and **personality disorder*** in **All Fields** or **self harm** in **All Fields** in **CENTRAL**

5 MeSH descriptor **Borderline Personality Disorder** explode all trees in **MeSH products**

6 MeSH descriptor **Dialect* behav* therapy** explode all trees in **MeSH products**

7 MeSH descriptor **Self Injur*** explode all trees in **MeSH products**

8 MeSH descriptor **Inpatient** explode all trees in **MeSH products**

9 MeSH descriptor **Treatment Outcome** explode all trees in **MeSH products**

10 **treatment*** in **All fields** or **intervention*** in **All fields** or **rehabilitation** in **All fields** in **CENTRAL**

11 MeSH Descriptor **Parasuicide** explode all trees **in MeSH products**

12 (#1 OR #2 OR #3 OR #4 OR #5)

13 (#6 OR #7 OR #8 OR #9)

14 (#10 AND #12)

15 (#11 AND #13)

16 (#14 AND #15)

Appendix C

Inclusion Criteria Assessment Form

Inclusion Criteria Assessment Form

FIRST AUTHOR; ……..

DATE; ..……..

COUNTRY; ……

1. Population

Is the Population adult?	Y	N/S	N
Are the population in a secure environment?	Y	N/S	N
Does the population contain only diagnoses of BPD?	Y	N/S	N

2. Intervention

Has the population engaged in DBT?	Y	N/S	N

3.Comparators

Is there a control or comparison group consisting of a different or no intervention?	Y	N/S	N

4.Outcomes

Are there validated measures for emotional regulation?	Y	N/S	N
Are there official records for self injury?	Y	N/S	N

5.Study types

Is the study either RCT, Quasi-experimental or Cohort?	Y	N/S	N

6. Conclusion

Is the study to be included?	Y	N/S	N

What is the reason for exclusion?

Appendix D

List of Excluded Studies

List of excluded studies and the reason for their exclusion

AUTHORS	DATE	TITLE	REASONS FOR EXCLUSION
Antikainen et al	1995	A prospective three year follow up study of borderline personality disorder inpatients.	DBT not included in treatment package.
Berzins, L., Trestman, R.	2004	The development and implementation of Dialectical Behavior Therapy in forensic settings.	Case study design
Bloxham, G	1993	The behavioural treatment for self-starvation and severe self injury in a patient with borderline personality disorder.	Non standardised treatment.
Ben-Porath, D.D., Peterson, G.A.	2004	Treatment of individuals with BPD in community mental health settings; Clinical applications and a preliminary investigation.	Outpatient participant group. Case study design.
Brassington, J., Krawitz, R.	2006	Australasian dialectical behaviour therapy pilot outcome study; effectiveness, utility and feasibility.	Non standardised data collection – self report measures.
Dimeff, L, Rizvi, S.L., Brown., M, Linehan. M.M.	2000	Dialectical behaviour therapy. A pilot application to methamphetamine-dependant women with borderline personality disorder.	Co-morbid substance use.
Harned M.S., Chapman A.L., Dexter-Mazza E.T., Murray A., Comtois K.A., Linehan M.M.	2009	Treating Co-Occurring Axis I Disorders in Recurrently Suicidal Women With Borderline Personality Disorder: A 2-Year Randomized Trial of Dialectical Behavior Therapy Versus Community Treatment by Experts	Co-morbid axis 1 disorders.
Heard, L.	2001	Cost effectiveness of DBT in the treatment of Borderline Personality Disorder.	Non psychological measures.
Huffman, C., Stern, T., Harley, R., Lundy, N.	2003	The use of DBT skills in the treatment of difficult patients in the general hospital.	No formal diagnosis of participants.
Kleindienst, N., Limberger, M.F.,	2008	Do improvements after inpatient dialectial behavioral therapy	Co-morbid disorders.

Schmahl. C., Steil, R., Ebner-Priemer, U .W., Bohus, M.		persist in the long term?: A naturalistic follow-up in patients with borderline personality disorder	
Koerner, D.	2000	Research on DBT for patients with BPD.	Synthesis of the literature.
Linehan, M., Comtois, K., Murray, M.A., Brown.M.	2006	Two-year Randomized Control Trial and Follow-up of Dialectical Behavior Therapy vs Therapy by Experts for Suicidal Behaviors and Borderline Personality Disorder.	Outpatient participant group.
Linehan, M.M, Dimeff. L.A., Craft, J.	1999	Dialectical behaviour therapy for patients with borderline personality disorder and drug-dependance.	Co-morbid drug use
Linehan, M.M, Kanter, J., Comtois, K.	1993	Dialectical behaviour therapy for borderline personality disorder.	Synthesis of the literature.
Linehan, M.M., Harned, M. S., Dimeff, L.A.	2008	Integrating dialectical behavior therapy and prolonged exposure to treat co-occurring borderline personality disorder and PTSD	Case Study design.
Lynch, R., Chapman, A., Rosenthal, M., Kuo, J.	2005	Mechanisms of change in Dialectical Behavior Therapy: Theoretical and Empirical Observations.	Synthesis of the literature.
McQuillan, A., Nicastro, R., Guenot, M., Girard, M.	2005	Intensive Dialectical Behavior Therapy for outpatients with Borderline Personality Disorder who are in crisis.	Outpatient participant group.
Nee, C., Farmer, S.	2005	Female prisoners with borderline personality disorder; some promising treatment developments	Case study
Perseius, K., Ojehagen, A., Ekdahl, S.	2003	Treatment of suicidal and deliberate self-harming patients with borderline personality disorder using Dialectical Behavioral Therapy; The patients' and the therapists' perceptions.	Outpatient participant group. Self reporting measures.

Rathus, J.H., Miller, A.L.	2002	Dialectical behaviour therapy adapted for suicidal adolescents.	Adolescent participant group.
Newton, B., & Denham-Vaughan., S.	2001	Service evaluation of a pilot project examining the impact of DBT on patients diagnosed with BPD.	Outpatient participant group. Before and after design.
Stenhouse, M.	2003	Congitive therapy and DBT; an intergrated approach to the conceptualization of borderline personality.	Non standardised intervention
Salsman, N.	2006	Dialectical behaviour therapy for borderline Personality Disorder	Synthesis of the literature.
Simpson, E., Pistorello, J., Begin, A., Costello, E.	1998	Focus on Women; Use of Dialectical Behavior Therapy in a Partial Hospital Program for Women with Borderline Personality Disorder.	Diagnosis criteria not met.
Simpson, E.B., Yen, S, Costello, E.	2004	Combined dialectical behaviour therapy and fluoxetine in the treatment of borderline personality disorder.	Intervention administered in combination with medication.
Solar, J., Pascual, J., Campins, J., Barrachina, J.	2005	Double-blind, Placebo-controlled study of Dialectical Behavior Therapy Plus Olanzapine for Borderline Personality Disorder.	Intervention in combination with anti psychotic medication.
Soler J., Trujols J., Pascual J.C., Portella M.J., Barrachina J., Campins J., Tejedor R., Alvarez E., Perez V.	2008	Stages of change in dialectical behaviour therapy for borderline personality disorder	Out participant group
Soler J., Pascual J.C., Tiana T., Cebria A., Barrachina J., Campins M.J., Gich I., Alvarez E., Perez V	2009	Dialectical behaviour therapy skills training compared to standard group therapy in borderline personality disorder: A 3-month randomised controlled clinical trial	Non standardised intervention.
Stanley, B	1998	Compariosn of DBT and " treatment as usual" in suicidal and self-mutilating behaviour.	Case Study
Turner, R.M	2000	Naturalistic evaluation of DBT-orientated treatment for BPD.	Non standardised pre and post measures.
Trupin, E., Stewart, G., Beach, B.	2002	Effectiveness of a Dialectical Behaviour Therapy Program for	Before and after

Boesky, L.		Incarcerated Female Juvenile Offenders	design. Juvenile Participant group.
Van den Bosch, L., & Verhaul, R.	2002	Dialectical Behaviour Therapy of Borderline patients with and without substance use problems. Implementation and long term effects.	Outpatient participant group. Co-morbid substance use.
Verheul, R., Van Der Bosch, L., Koeter, M., De Ridder, M.	2003	Dialectical behaviour therapy for women with borderline personality disorder; a 12-month, randomised clinical trial in the Netherlands.	Co-morbid substance use by all participants.
Yen S., Johnson J., Costello E., Simpson E.B.	2009	A 5-day dialectical behavior therapy partial hospital program for women with borderline personality disorder: Predictors of outcome from a 3-month follow-up study	Partial hospitalization

Appendix E

RCT Quality Assessment Form

Quality Assessment Form for Experimental Studies

Date of Quality Assessment;

Study Number;

Study Author;

Study Title;

THRESHOLD CRITERIA

1. Did the study ask a clearly focused question?

Was the population clearly only individual with BPD?	Y	N/S	N
Was the therapeutic intervention clearly defined?	Y	N/S	N
Were the control/ comparison groups clearly defined?	Y	N/S	N
Were measurement tools validated and clear?	Y	N/S	N

STUDY DESIGN

2. Did the study meet criteria for experimental design?

Was true randomisation employed?	Y	N/S	N
Was allocation concealment required?	Y	N/S	N
Was this the right research approach for the question being asked?	Y	N/S	N

Please circle;

QUASI-EXPERIMENTAL RCT

DETAILED QUESTIONS

SCORING CRITERIA (TOTAL FOR OVERALL QUALITY ASSESSMENT SCORE);

YES 2 PARTLY 1 NO 0 UNCLEAR U

3. Were participants appropriately allocated to intervention and control/comparison groups?

Did the researcher allocate he participants to

the groups appropriately?	2	1	0	U
Are the groups the same at entry?	2	1	0	U

4. Were all of the participants that entered the study accounted for at its conclusion?

Were participants followed up from each group?	2	1	0	U
Was loss to follow-up avoided?	2	1	0	U
Is loss to follow up considered?	2	1	0	U

Is there additional information that would have been helpful?

If so please list;

5. Was the data collected in the same way from each group?

Were participants reviewed at the same time period	2	1	0	U
Did they receive the same follow-up process?	2	1	0	U
Did they answer the same questionnaires	2	1	0	U
Did they have the same official measures?	2	1	0	U

6. Did the study have enough participants to make conclusions beyond that of chance?

Is there a power calculation stating the number of participants required to be sure that the findings are important	2	1	0	U

7. Are the results precise?

Is the effect size large enough?	2	1	0	U
Is it precise enough to make decisions?	2	1	0	U

8. How applicable are the results to the UK?

Are participants representative of borderline personality disordered inpatients generally?

Are the settings of the research representative of those in which professionals usually see borderline personality disordered inpatients in the UK?

If the study was completed outside the UK, is it appropriate to assume the findings are equally as relevant to the UK population?

TOTAL QUALITY ASSESSMENT SCORE;

Appendix F

Cohort Quality Assessment Form

Quality Assessment Form For Cohort Studies

Date of Quality Assessment;

Study Number;

Study Author;

Study Title;

Threshold Criteria

1. Did the study ask a clearly focused question?

- Was the population only detained individuals with a diagnosis of borderline personality disorder? Y N/S N
- Was the therapeutic intervention clearly defined? Y N/S N
- Was the measurable behaviour clear? Y N/S N
- Did the study clearly attempt to detect a beneficial effect? (follow up period) Y N/S N

2. Study design

- Is a cohort study the most appropriate way to answer the question in these circumstances? Y N/S N
- Does it address the research question? Y N/S N

Detailed Questions

Scoring Criteria (total for overall quality assessment score)

YES 2 PARTLY 1 NO 0 UNCLEAR U

(selection bias – may compromise the generalisability of the findings)

2. Was the recruitment of the cohort acceptable?

- Was the cohort representative of the DV population? 2 1 0 U
- Was the cohort selected from an appropriate pool of Inpatients/prisoners? 2 1 0 U
- Were all of the population given an equal opportunity to participate? 2 1 0 U

3. Was the exposure accurately measured?
(measurement of classification bias)

- Were objective measures employed? 2 1 0 U
- Are the measures valid and reliable? 2 1 0 U
- Was the intervention measured in the same way for all participants? 2 1 0 U

4. **Was treatment outcome accurately measured to minimise bias?**
(Measurement or classification bias)

- Were objective measures of outcome employed? 2 1 0 U
- Are these measures valid and reliable to be generalised to the psychiatric population? 2 1 0 U
- Did the measures consider influencing factors on the outcome? 2 1 0 U
- Were the measurement methods similar across groups? 2 1 0 U
- Were the measurement methods blind to intervention? 2 1 0 U

5. **Are all the important confounding factors identified in the research?**

- Was consideration given to all confounding factors 2 1 0 U

6. **Did the authors take into account confounding factors in design/analysis?**
   - Are drop out rates reported 2 1 0 U
   - Are there restrictions in design (modelling, stratification, regression) 2 1 0 U

7. **Was the follow-up of participants comprehensive?**
   - Was follow-up long enough for effects to be revealed? 2 1 0 U
   - Were effects made to contact every participant? 2 1 0 U

8. **Are the results believable? (both items require reverse scoring)**
   - Could any effect be due to bias? 2 1 0 U
   - Are the design/methods sufficiently flawed to render the results unreliable? 2 1 0 U

9. **Did the research use appropriate statistics?**
   - Was the analysis appropriate for the study? 2 1 0 U

10. **Can the population be applied to the UK population?**

- Are participants representative of borderline Personality disordered patients in the UK?
- Are the settings of the research a fair representation of those in which professionals usually administer DBT.
- If the study was completed outside of the UK, is it appropriate to assume the findings are equally as relevant to UK populations?

TOTAL QUALITY ASSESSMENT SCORE;

Appendix G

Data Extraction Form

Data Extraction Form

1. General Information

Date of data extraction;

1.2 Features of the study

1.2.1 Study's Author;

1.2.2 Title;

1.2.3 Date;

2. Specific Information

2.1 Population

Describe the target population;

Inclusion Criteria

Exclusion Criteria

Recruitment procedures

3. Methodological quality of study

RCT

Quasi-Experimental

Cohort

Case Control

Cross sectional

Unit of allocation (e.g service providers, wait-list controls)

Quality assessment (was any completed?)

Characteristics of population at start of intervention

Total number
Age; Range;
Mean;

Gender;
Diagnosis; (primary, dual diagnosis?)
Age at diagnosis?
Status (inpatient, outpatient, prisoner)

Substance misuse?

Number of participants in each conditions

Condition A

Condition B

Condition C

Condition D

4. Were interventions and control/comparison groups comparable in terms of their background details?

5. Methodological quality of study

RCT

Quasi-Experimental

Cohort

Case Control

Cross sectional

Unit Of allocation (e.g service providers, wait-list controls)

Quality assessment (was any completed?)

Interventions

Focus of intervention (e.g. DBT, DBT plus substance use, DBT plus psychotherapy) DBT based therapy

Name of Intervention(s)

Condition A

Condition B

Condition C

Condition D

Number of conditions

Content of intervention

Condition A

Condition B

Condition C

Condition D

Intervention Setting (e.g; probation, Community, inpatient)

Duration of intervention (both number of sessions and length of sessions in minutes)

Condition A

Condition B

Condition C

Condition D

Delivery style of Intervention(s) (e.g 1-1, group work, both)

Condition A

Condition B

Condition C

Condition D

Discipline of Staff delivering exposure (e.g psychologist, probation officer, therapist, councillor)

Condition A

Condition B

Condition C

Condition D

What specialist training have staff received?

OUTCOMES

What was measured at baseline?

A

B

C

D

E

F

G

What was measured at post-intervention?

A

B

C

D

E

F

G

Who completed the measurement?

What was the measurement tool?

Are the tools valid and how was validity established? (e.g factor analysis, piloting)

Are the validity of self-report behaviour maximised?

Time interval between the first and second measurement (e.g; pre and post intervention)

If an assessment measure was missing can it be applied to the borderline personality disordered population in a standardised format?

Do the measures need to be used with another assessment tool?

Are the measures valid and reliable to be used in the general borderline personality disordered population?

Was there any attempt to reduce informant bias?

ANALYSIS

What statistical techniques were employed?

Do the techniques adjust for confounding variables?

What is the unit of analysis?

Attrition rates (overall)

Was attrition adequately dealt with?

Number/ % follow up from each condition

Condition A

Condition B

Condition C

Condition D

Results

Self-injurious behaviours according to official documents (hospital/prison documentation)

Conditon A (mean, sd, %, follow-up time)

Condition B (mean, sd, %, follow-up time)

Condition C (mean, sd, %, follow-up time)

Condition D (mean, sd, %, follow-up time)

Quantative results (e.g effect size)

The effect of the intervention on other mediating variables

Any qualitative results?

Cost of the intervention?

Cost effectiveness of the intervention(s)

Significance and implications of findings?

Appendix H

Incident Data Proforma Sheet

Appendix I

Behavioural Modification Care Plan

Notes to accompany Ms W's behavioural 'leave ladder'

(TO BE KEPT IN HER CLINICAL FILE)

Introduction

Ms W has, since her admission displayed a range of challenging behaviours, namely self-harm, and violence and aggression towards others. The following plan is to encourage her to behave in a more pro-social and 'less risky' manner. In addition this plan aims to assist Ms W in developing realistic and appropriate long term goals, as well as support and direction when boundaries are broken.

Plan

- A list of risky 'red behaviours' specific to Ms W have been devised, laminated and put on her bedroom wall. Ms W has agreed that these behaviours are unacceptable.

- Also on her wall is a picture of a ladder with 7 steps. One step represents one day. For each day that Ms W shows no red behaviours she moves up one step on the ladder, approaching staff for a sticker to mark her progression. If Ms W displays any of her red behaviours she remains on the same step. She doesn't move up or down.

- If, after a week (Wednesday to Wednesday) Ms W reaches step 5 then she is to be allowed to plan a ''one off'' leave which will have been previously authorised by the MDT. This trip will be written across the top of her leave ladder once it has been ok'd.

- This leave is in addition to any other that is planned for Ms W in that specific week and is not to substitute for anything else that she may have planned.

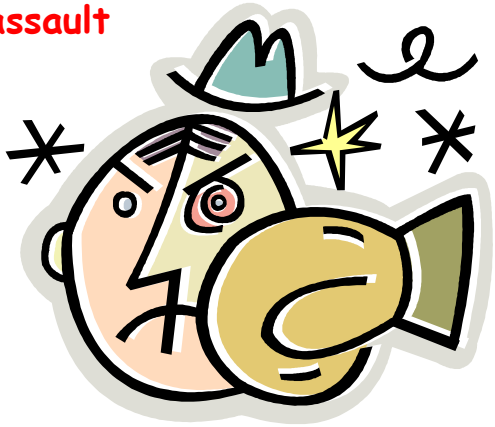
- Ms W will have a new ladder for each week, with the week being written on the top. The week will always start on a Wednesday to coincide with MDT.

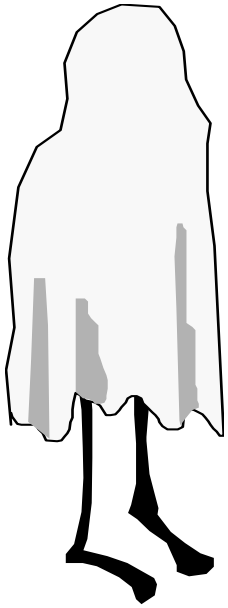
- This plan or the list of red behaviours is not exhaustive and will be reviewed on a regular basis. If you have any questions about this plan or its implementation then please just ask.

Ms W's RED Behaviours

Absconding or trying to abscond

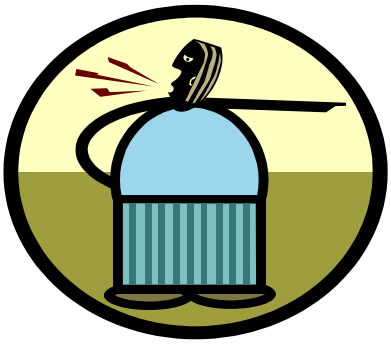
Assaulting people or trying to assault people





Hiding items to hurt people or myself

Refusing to take medication



Shouting at people

Damaging property

Ms W's weekly leave ladder

Week starting.....