

INVESTIGATING THE ASSESSMENT AND TREATMENT OF VIOLENCE IN
ADOLESCENTS WITH DEVELOPMENTAL DISABILITIES

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Investigating the Assessment and Treatment of Violence in Adolescents with Developmental Disabilities

Abstract

This thesis aims to explore and understand the assessment and treatment of violence in adolescents with Developmental Disabilities (DD). Chapter 1 provides a summary of the background literature, and a rationale for the thesis. A literature review exploring the availability and effectiveness of treatment with developmentally disabled populations is conducted in Chapter 2. The review highlights the scarcity of studies which specifically evaluate treatment for adolescents with DD who have offended. Treatment approaches have been developed for adult populations with DD but have been hampered by the lack of standardised assessments validated for use with this specific population. The little research that has been conducted is promising, but is tentative due to the limitations of research in this area and poor methodological designs. The review is limited to drawing tentative conclusions about the efficacy of treatment interventions. Recommendations are made for designing and evaluating methodologically sound studies, and for further research. Next, Chapter 3 investigates the utility of The Structured Assessment of Violence Risk in Youth (SAVRY), in measuring and predicting violence risk in adolescents with and without DD in a forensic inpatient service. Significant findings using Spearman's Rho analyses were only evident in the group with DD, and suggested that the SAVRY is a strong predictor of risk of violence in adolescents with DD in this sample. This surprising finding contradicts previous research which suggests specific tools are needed for this population. Therefore this study provides a promising avenue for research into the use of established adolescent violence risk assessments for individuals with DD. Chapter 4 critiques the How I Think Questionnaire (HIT), which is a psychometric measure that assesses the attitudes and behaviours suggestive of a propensity towards violence in adolescence. The findings of the critique suggest that the HIT has undergone fairly stringent psychometric testing. Despite this, there are still major test construction considerations that need to be repeated and reported, and further validation is warranted. In addition, clarification regarding its use in populations of adolescents with DD is suggested. A case study is presented in Chapter 5 of a multi-model treatment programme including an adapted anger management intervention with an adolescent with DD evidencing a violent index offence. The case study utilises a battery of assessments including the HIT and the SAVRY in the planning, implementation and evaluation of treatment. Chapter 6 discusses the findings of the preceding chapters, and draws together conclusions. Consideration is also given to the direction of future research.

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CHAPTER ONE
INTRODUCTION

Introduction

Identifying the offender with DD: The difficulties with definition and prevalence rates

Learning disabilities (LD) are defined as “conditions of global cognitive delay that occur during the developmental period” (Hassiotis & Hall, 2004, p.2). They are associated with low cognitive ability, as indicated, for example, by an Intelligence Quotient (IQ) of 70 or below on an appropriately standardised and administered test such as the WAIS (Wechsler Adult Intelligence Scale-III) (Wechsler, 1998) or in the case of adolescents the WISC-IV (Wechsler Intelligence Scale for Children –IV (Wechsler, 2004)). However, IQ alone does not adequately describe a person’s ability (Coleman & Haaven, 2001). This is particularly important when considering individuals who may well have IQ’s above 70 but have significant deficits in areas of adaptive and social functioning, for instance education, occupation, self-direction, personal relationships and community utilisation (Hassiotis & Hall, 2004). This is a familiar case with individuals diagnosed with Autistic Spectrum Disorder. For this reason the umbrella term developmental disabilities (DD) is more commonly preferred over learning disabilities, as it incorporates those individuals who struggle to function adaptively yet whose IQ score may or may not be above the commonly used cut off score of 70. Thus, it is recommended, that a classification of DD should only be made on the basis of assessed impairments of both intellectual functioning *and* adaptive and social functioning that have been acquired before adulthood (Craig, Stringer & Moss, 2006).

A report by the Scottish Executive (Myers, 2004) into people with learning disabilities and/or autistic spectrum disorders (herein referred to as developmental disabilities – DD) in secure, forensic and other specialist settings highlights the difficulties in definition. Firstly, Myers (2004) argues, there are different terms used (for example, intellectual disability, learning difficulty, DD, mental retardation) to describe what may or may not be a similar set of attributes. Secondly, comparisons are also made difficult due to the measures used to assess these attributes, the pre-determined cut off points used to distinguish between people with and without DDs, and the differing measures for estimating incidence and prevalence in different environments.

Whilst, Johnston (2005) found prevalence rates of prisoners with learning disabilities in UK prisons of 0.4% to 5%, it is accepted that there are significant difficulties establishing accurate figures. Crime figures are notoriously underestimated, and those that apply to offenders with DD are thought to be even more inaccurate (Holland, 2004). This is for a number of reasons,

as Holland (2004, p.27) states: “...*the relationship between the presence of a DD and offending is a complex one.*”

Whilst in the general population, many more offences are committed than are reported to police and prevalence rates vary dramatically depending upon where in the criminal process the measurements of prevalence are taken, this is also a significant problem in studies of DD individuals who have offended. For instance Holland (2004) states that if one were to measure prevalence rates of offending by individuals with DD at conviction, this would yield figures that are ‘the tip of the iceberg’ and depend upon a process which he claims involves discretion and decisions at many different stages or ‘filter points’. For instance, whether a criminal offence is detected, the decision to report it, whether police action follows, whether the alleged perpetrator is arrested, and whether he/she is charged, brought to court, and found guilty. Decisions at each of the stages are often based on whether a successful conviction is thought likely, and whether it is in the public’s interest to proceed. In addition, whether someone is defined as an ‘offender’ may not solely depend upon notions of intent, or the assessed capacity to tell right from wrong (Holland et al, 2002).

The behaviour of individuals with DDs is often seen as lacking criminal intent. Thus their behaviour tends to be viewed within the challenging behaviour paradigm and consequently never reaches the attention of the criminal justice system (Leonard, Shanahan & Hillery, 2005). This explains why more data is available with respect to rates of ‘challenging behaviour’ in this population as opposed to specific criminal offences. The prevalence of ‘challenging behaviour’ in persons with an intellectual disability has been estimated between 5.7% and 14% but again is subject to those measurement difficulties discussed (Leonard, Shanahan & Hillery, 2005). Other factors, may determine whether similar behaviours are processed via the criminal justice system or contained within service systems (Lyall, Holland & Collins, 1995) including carers’ assumptions and concerns for the person with the DD, as well as when the victims themselves have DD, and it is thought that they will be unable to give sufficient evidence.

Research undertaken by the *No One Knows* programme (Prison Reform Trust) demonstrates that between 20% and 30% of offenders have DD; of this group 7% will have very low IQs of less than 70 (Jacobson, 2008). This is a similar figure to that proposed by McMillan, Hastings and Coldwell (2004) who suggest that up to 25% of offenders with DD have committed violent offences (Johnston, 2005).

Previously, Simpson and Hogg (2001, p.394) concluded a systematic review of the evidence regarding offending amongst individuals with DD with the following comments:

"...there is no convincing evidence that the prevalence of offending among people with intellectual disability is higher than for the wider population..."

Differences in offending behaviour

Research is also controversial when considering whether those offenders with DDs have a propensity towards certain types of offending. According to Leonard, Shanahan and Hillery (2005) people with DD have historically been associated with particular offences, most notably sex offences, petty crimes and arson (Barron, Hassiotis & Banes, 2004). UK based research has been conducted into the prevalence of DD within the adolescent sexual abuser population. Though the definition of adolescence varies dramatically both between and within countries, in terms of the law, in England and Wales adolescents (minors) are defined as persons under the age of 18. The age of criminal responsibility in England and Wales and in Northern Ireland is 10. The broadness of this classification is acknowledged. Dolan, Holloway, Bailey and Kroll (1996) looked at data from the case files of 121 young people referred to a specialist adolescent forensic service for sexually abusive behaviours over a seven-year period. Many of the young people in this sample had been assessed by educational psychologists (57%), 56.2% had been educated in special schools and 45% had a diagnosed DD. However, O'Callaghan (1998) suggests that young men with DD who are sexually aggressive may be over-represented in samples of identified young abusers, as they are particularly visible within professional systems, thus agreeing with Thompson and Brown (1997) who caution against the view that was assumed by early research which suggested individuals with DD have a greater propensity to sexually offend than non-DD individuals. Indeed, Lindsay (2002) also concludes that there is no clear evidence for the over or under representation of people with DD amongst sex offenders.

It seems that the association between DD and offending is complex. However results of research appear to repeatedly suggest that those within the *'borderline'* intellectual disability range may be more prone to committing sexual and criminal damage offences than those with an IQ less than 50 who, according to the figures, rarely offend (Simpson & Hogg, 2001). This raises the question of whether an individual's level of IQ impacts upon their risk of offending. This is investigated further in Chapter 3 in relation to the risk of violence.

Adolescent Violence

The World Health Organisation (WHO, 1996; p.30) in their world report on violence and health define violence as:

“The intentional use of physical force or power, threatened or actual, against another person or against oneself or a group of people, that results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation”.

The nature of violence in adolescence is diverse, and the task of assessing it complex. Adolescence is a period marked by an increased likelihood of involvement in antisocial behaviour (Moffitt, 1993). Youth violence is a subset of youth antisocial behaviour that has been of particular concern within recent years (Catchpole & Gretton, 2003). Indeed, in England and Wales, offenders younger than 18 are suspected of committing on average 18% of assaults and 39% of robberies (Barberet, 2001). More recent data from the 2006 Offending, Crime and Justice Survey presented by the British Crime Survey (Roe & Ashe, 2008) showed that just over a fifth (22%) of young people aged from 10 to 25 reported that they had committed at least one of 20 core offences in the previous 12 months. Whilst the survey included young adults, it acknowledged that the peak age of offending was 14 to 17 and the peak age for committing Anti Social Behaviour was 14 to 15. There is an extensive literature on risk factors for violence and aggression amongst this population (Borum, 2000) but not amongst the population of adolescents with DD.

The prevalence of individuals with DD has also received attention in inpatient settings. Johnston (2005) found the highest prevalence of adult offenders with DD in hospital settings, where many also suffer from mental illness and personality disorders. Research has established that violence within inpatient settings has a significant effect on other patients, staff, and the emotional balance within units (Serper et al., 2005; Needham et al., 2004). Indeed, violence is one of the major reasons for referral to such facilities in the first place (Crichton, 1995; Smith & Humphreys 1997) and according to Hillbrand (2001) and Harris and Barraclough (1997) the probability of violence directed towards others is much higher in individuals with mental health difficulties than in the general population. For these reasons, the management and prediction of violence is a major challenge on these units. However violence still remains a relatively under-researched area with regard to inpatient settings.

Research on prevalence rates of mental health issues within offenders with DD suggests high rates of psychopathology (51.7%), particularly in relation to psychotic illnesses (43.3%) (Barron, Hassiotis & Banes, 2004). This finding is consistent with a number of previous UK studies (Day 1988, Isweran & Bardsley 1987). Emerson and Hatton (2007) found that the prevalence of psychiatric disorders was 36% among children with intellectual disability (n=641) and 8% among children without (n = 17,774). Children with intellectual disabilities accounted for 14% of all British children with a diagnosable psychiatric disorder. Increased prevalence of intellectual disabilities was particularly marked for autistic spectrum disorder, hyperkinesia and conduct disorders.

Despite much of the work on prevalence rates in the area of DD, there are problems in that a lot of the work is very narrowly based on the intellectually disabled, as measured by standardised IQ assessments. The little work that has been done on other DDs, such as the Autistic Spectrum Disorders, is based primarily on case reports, despite young people with Autistic Spectrum Disorders having very similar needs and treatment issues to those with intellectual disabilities (O'Brien, 2002). Efforts must therefore continue into researching the assessment and treatment of violence within adolescent inpatient populations of individuals with DD, and in investigating whether violence is associated with mental illness diagnoses.

Structure of the Thesis

Aims and Rationale

The task of treating violence both general and sexual is a complex one, without the additional complexities of DD. This thesis aims to explore and understand the assessment and treatment of violence in adolescents with DD. The specific aims and rationale of each chapter will now be discussed in turn.

In Chapter 2, a review of the literature aims to synthesise the research findings on effective treatment practice with individuals with DD who have offended. Searches of literature databases (ERIC, EMBASE, Medline, PsychInfo, National Autistic Society's research database and the Cochrane Library) examined offence specific treatments for individuals with DD and recommendations for future work are made. Overall the findings of the review suggest a likely need for specifically designed treatments for adolescents with DD who offend, and highlights the need for further research which aims to identify the offence related factors for adolescents with DD and make improvements to the services currently provided for adolescents with DD.

To date whilst research in the area of sexual aggression in individuals with DD is progressing, specific tools investigating the processes mediating violence in adolescents are not as advanced. One of the recommendations arising from Chapter 2, was to establish what the specific offence related factors of this population are. Thus it is suggested that research be conducted to establish whether a currently used risk assessment tool is appropriate for a population of individuals with DD or whether it needs adapting to include risk factors which are potentially more suitable to adolescents with DD who offend violently. Chapter 3 investigates this further.

Specifically, Chapter 3 reports a piece of longitudinal research which assesses the predictive validity of a structured clinical risk assessment (the SAVRY) in predicting the risk of violence in a population of adolescents with DD and a population of adolescents without DD. One of the recommendations of the research is to investigate further the potential applicability of other tools, in the assessment and evaluation of treatment for adolescents with DD. The utility of expanding this investigation to psychometric tools as well as risk assessment tools is also considered.

Cognitive distortions have received attention from a wide array of areas within forensic psychology, and Chapter 4 aims to present the strengths and weaknesses of The How I Think Questionnaire (HIT by Barriga, Gibbs, Potter & Liao, 2001), a psychometric tool commonly used in the assessment of attitudes and cognitions supportive of violence; and then consider its applicability for use in a case study of an adolescent with DD who has committed a violent crime, presented in the following chapter. The questionnaire which assesses the level of self-serving cognitive distortions held by youth is critically evaluated based on its psychometric properties including its construction, validity and reliability.

In Chapter 5, a case study is presented of a 16 year old male diagnosed with Autistic Spectrum Disorder. Convicted of threatening a police officer with a knife, the young man underwent a series of assessments including the HIT and the SAVRY risk assessment to investigate the factors thought to be associated with his violence. He then engaged in a multi-modal treatment programme including an adapted version of Aggression Replacement Training (Goldstein, Glick & Gibbs, 1998), an intervention which focuses on the use of cognitive behavioural strategies to teach adolescents non aggressive skills for managing conflict and communicating and expressing anger adaptively. It is suggested that this case study reflects the utility of cognitive behavioural interventions adapted for use with

adolescents with DD both in reducing self serving cognitive distortions as well as other factors felt to be associated with violence, and the frequency of the violence itself. The case study presents some of the current methods of adapting interventions to better suit individuals with DD, as well as some of the assessments for use in assessing adolescents with DD.

Chapter 6 concludes the thesis by presenting a discussion of the findings and their utility in terms of the practical application in the prediction and prevention of violence within an adolescent developmentally disabled population. The direction of future research is also suggested. In summary, each chapter has been carefully selected in order to contribute to the aim of this thesis: to explore and understand the assessment and treatment of violence in adolescents with DD.

CHAPTER TWO

INVESTIGATING THE NATURE AND EFFECTIVENESS OF TREATMENT FOR ADOLESCENT OFFENDERS WITH DEVELOPMENTAL DISABILITIES: A REVIEW

Abstract

Aims: To synthesise research findings to promote understanding of available treatment practice, and the effectiveness of treatments within an adolescent offending population with DD. Findings gleaned from studies with adults with DD will also be considered to gain a global picture of treatment practice with this population.

Method: A review of all literature related to the treatment of offenders with DD was conducted in the ERIC, EMBASE, Medline, PsychInfo, the Cochrane Library and Autism Research (the National Autistic Society's research database). Two sets of keywords describing participants ('children', 'child', 'adolescents', 'young offender', 'prisoner', 'juvenile delinquent', 'criminal', 'mentally ill offender', 'delinquent', 'convict' and 'patient') and ('autistic', 'Asperger's syndrome', 'learning disabilities', 'Developmental Disabilities', 'mental retardation', 'learning disorder', 'pervasive developmental disorder' and 'autism') were combined with a third set of terms describing treatment ('treatment', 'management', 'treatment & prevention' and 'programmes') in all possible permutations. In addition, where possible search terms were expanded (using the online journal database exp. function) to map on to broader categories, and the 'grey' literature was searched using major World Wide Web search engines so as to ensure a thorough search was conducted.

Results: Treatment within the area of DD is growing. However, this is still a very new area of research and as such there are no treatments designed specifically for adolescent offenders with DD. Treatment approaches have been developed for adult populations with DD but have been hampered by the lack of standardised assessments validated for use with this specific population. The little research that has been conducted is promising, but is tentative due to the limitations of research in this area and poor methodological designs. CBT based programmes appear to be the favoured approach, though are not necessarily established as the most effective.

Conclusions: Overall the findings suggest a likely need for specifically designed treatments for adolescents with DD who have offended. Future research needs to consolidate the recommendations made into sound study designs, and RCT's should be considered as a starting point to evaluate the effectiveness of treatments, with single case study designs as a second option.

Introduction

Whilst the association between criminal offending and DD has for many years been the subject of speculation (Leonard, Shanahan & Hillery, 2005), concerns have been raised about the inability of the Criminal Justice System and Health and Social Services to identify, assess and treat individuals with DD who offend (Banes, 2002). However, more methodologically sound studies are beginning to emerge to aid, guide and evaluate the assessment and treatment process. Two influential literature reviews have been completed in the area, a systematic review into assessment and treatment of adult offenders with DD (see Lindsay & Taylor, 2005) and a review of assessment and treatment of aggression in adolescents with DD (see Matson, Dixon & Matson, 2005). In addition, Timms and Goreczny (2002) authored a review on the assessment of adolescent sex offenders, including those with learning disabilities. However, no comprehensive review exists which addresses the current state of treatment (non-specific) of adolescent offenders with DD. One reason for this is there is a significant paucity of research conducted with adolescent offenders with DD. Amongst other reasons; this is possibly due to the difficulties that exist in identifying offenders with DD (as discussed in the introduction on page 2 of Chapter 1).

As highlighted in the introduction to this thesis (specifically pages 5 and 6), whilst a large proportion of research to date has focused on identifying the prevalence of offenders with DD and the characteristics of those offenders and their offences, there is a general consensus that this avenue of research is fraught with methodological difficulties, and some think that efforts in this area are wasted,

“...clinically, the exact prevalence figures probably matter little: the important point is that many, if not most, offenders with DD are receiving inadequate services.” (Lambrick & Glasser, 2004, p.382).

Only recently have services begun to acknowledge that efforts are needed to establish what the needs of this specific client group are, and how to go about meeting those needs. No One Knows, the UK-wide programme led by the Prison Reform Trust (Talbot, 2007) aimed to bring about change in the form of care and treatment provision for prisoners with learning disabilities by raising awareness of the experiences of individuals with DD who come into contact with the criminal justice system. Leonard, Shanahan and Hillery (2005), claim that managing and treating adult and adolescent offenders with DD in a generic setting for those without such difficulties is inappropriate. Despite the acknowledgement of certain special

requirements (for instance adaptations to treatment to meet the cognitive profiles of individuals with DD), progress on developing specialised treatments designed specifically to meet their forensic needs, has been slow.

Timms and Goreczny (2002) have noted a lack of empirical research addressing the particular treatment needs of adolescents with DD who have committed sexual offences. Thus despite a number of published treatment studies, it remains unclear as to which treatment components are most effective in reducing recidivism in adolescent offenders with DD.

O'Callaghan (1998) reflects on one service's (G-MAP) experience in adapting treatment to meet the forensic needs of young people with DD whose sexual behaviour is abusive. G-Map is an independent organisation offering a range of services to young people who display inappropriate sexual behaviours, their families, carers and the professionals that work with them. O'Callaghan suggests that whilst there are a number of factors associated with offending which are equally as applicable to adolescents with DD, there are also certain factors which are particularly relevant. For instance the article discusses issues such as chromosomal disorders, poor understanding of the concept of consent or the impact of abusive behaviour on others, provision of appropriate sex education and lack of opportunities for acceptable sexual expression. O'Callaghan (1998, p.440) summarises that understanding the forensic needs of adolescents with DD:

“...should be informed by an understanding of their differential life opportunities and developmental processes. However, the fact of a learning disability should not be allowed to obscure the individual pathways into offending, which should be explored with the breadth of analysis used in relation to any young person who has problematic (sexual) behaviour. Such an analysis provides the basis for appropriate management and intervention strategies.”

Thus, it is reasonable to suggest that there may be some characteristics of adolescent offenders with DD which may affect or impact in some way on treatment success. Some of the factors which have been suggested include verbal comprehension and expressive language performance. These, Leonard et al., (2005) claims, will affect an individual's ability to benefit from treatment. The majority of treatment programmes reported in recent literature have adapted treatment approaches developed for mainstream populations (Marshall, Jones, Ward, Johnston, & Barbaree, 1991). Specific adaptations include the simplification of concepts, the use of visual imagery, an emphasis on the generalisation of skills developed in treatment to

day-to-day environments and the use of assessment and intervention methods such as functional analysis, and behaviour modification to compliment these approaches. Lambrick and Glasser (2004) argue that in the assessment and treatment process, the use of simplified approaches that support the day-to-day reinforcement of treatment concepts is proving to be effective with offenders with DD. In addition, group treatment approaches are widely recognised as the most effective treatment format with this population (Rose, Jenkins, O'Connor, Jones, & Felce, 2002), possibly due to peer pressure influences.

O'Callaghan (1998) emphasises the need for concrete, focused sessions of reasonably short duration; a variety of differential methods for programme delivery e.g. drama/role play, art-based exercises, visual and video material; as well as discussion; efforts to address the difficulties in establishing group cohesion, and reliance of group members on group facilitators as well as incorporating positive alternatives to offending and skill acquisition, particularly in the area of social skills. He suggests that too often, referrals are made in relation to offence-specific behaviours but not enough attention is given to the offence-related behaviours. Often clients also have particular social skills deficits in the areas of problem solving, anger management, communication skills, assertiveness, and conflict resolution.

Techniques for adapting interventions to better suit the needs of individuals with DD have been reported to have been used successfully in the implementation of CBT approaches for a variety of problems, including depression, anxiety and inappropriate sexual behaviour (e.g. Stenfert-Kroese, Dagnam, & Loumidis, 1997). Increasing evidence suggests that cognitive-behavioural interventions known to be effective in non-DD clients can also be used effectively in clients with mild DD (Willner, Jones, Tamsy & Green, 2002). This is fortunate when considering a survey found that 35% of British Clinical Psychologists working with individuals with DD routinely use cognitive-behavioural approaches (Nagel & Leiper 1999). The figure nine years on is probably much higher.

The effectiveness of the Novaco Cognitive Behavioural approach in the treatment of aggression in clients with DD has been demonstrated in case studies (e.g. Murphy & Clare 1991; Black & Novaco 1993), and in small groups. However, there are few randomised controlled trials, and none of these group studies include an untreated control group. Indeed, although randomised controlled trials are deemed to be the 'gold standard', for treatment evaluation (NHS Executive, 1996), there have been very little research efforts in this area,

possibly due to the ethical implications related to withholding treatment, which is discussed in more detail in Chapter 3.

Alongside the Novaco cognitive behavioural approach, a variety of treatment approaches for aggression have been studied in the literature. Due to the multiple functions that aggression can serve, it is not surprising that no single treatment method has been established as the most effective in treating aggression. The most commonly reported treatments however have included positive reinforcement, differential reinforcement, time-out, aversive stimuli and non-contingent reinforcement (Matson, Dixon & Matson, 2005). Matson, Dixon and Matson (2005) conducted a comprehensive review of the treatment of aggression in children with DD. In all, they located 34 studies. This included 12 individual treatment approaches and 10 studies in which individual treatment methods were used as a part of a larger treatment package. All the treatments identified for the review were shown to reduce aggression successfully. Indeed, in many cases, the frequency of the behaviour was reduced to zero, suggesting that treatment approaches in this specific area can be effective. They conclude that, due to increased awareness of the importance of identifying the function of behaviour, researchers have begun to base their treatment methods on the results of functional assessments the outcome of which appears promising.

Relatively little research examining the efficacy of specific therapeutic interventions for individuals with DD who offend has been undertaken (Barron, Hassiotis & Banes, 2004). For instance, although Multi-systemic therapy (MST), has been used with success with violent and chronic adolescent offenders (Bourdin, 1999), evaluation of its use with adolescents with DD has not been established (Hayes, 2004). This is partly due to a number of issues associated with the evaluation of treatment effectiveness in offenders with DD. One of the major problems that has limited the number of research studies evaluating the effectiveness of treatment programmes with offenders with DD in general, is that DD are often exclusion criterion used by many treatment programmes that might otherwise serve this population quite well (O'Connor, 1997). Much of the limited research to date has looked at established programmes for non-DD populations and their applicability to populations of individuals with DD. Some of these have demonstrated effective change but remain questionable due to their choice of psychometrics (there are very few psychometrics designed specifically for individuals with DD) (Sinclair & Murphy, 2000). The difficulties extend further when considering the evaluation of treatment efficacy with adolescent offenders with DD. This is an area in which no research has yet been conducted, and is addressed in Chapter 3 of this thesis.

Secondly, it is difficult to gain participant consent to treatment, or to be a research participant, due to the nature of gaining consent from someone who has been deemed in many cases unfit to plead, and thus unable to give informed consent; and finally, there is also difficulty in obtaining homogeneous samples of sufficient size, the implications of which are that there is usually insufficient statistical power to detect change and differences between conditions (Barron, Hassiotis & Banes, 2004). However a number of studies have attempted to commence the difficult task of communicating the nature and effectiveness of treatment interventions offered to offenders with DD.

Aim

The aim of this review is to investigate the availability and effectiveness of treatments for adolescent offenders with DD. Findings gleaned from studies with adults with DD will also be considered, to gain a global picture of treatment practice with this population.

Method

A review of the literature related to the treatment of offenders with DD was conducted in the EMBASE, Medline, PsychInfo, ERIC, Cochrane Library and Autism Research (National Autistic Society) databases to find studies reporting on treatment of individuals with DD who have offended (either convicted of crimes or a documented history of criminal behaviour). In each case variations on the following search strategy were used: Two sets of keywords describing participants ('children', 'child', 'adolescents', 'young offender', 'prisoner', 'juvenile delinquent', 'criminal', 'mentally ill offender', 'delinquent', 'convict' and 'patient') and ('autistic', 'Asperger's syndrome', 'learning disabilities', 'Developmental Disabilities', 'mental retardation', 'learning disorder', 'pervasive developmental disorder' and 'autism') were combined with a third set of terms describing treatment ('treatment', 'management', 'treatment & prevention' and 'programmes') in all possible permutations. In addition, where possible search terms were expanded (using the online journal database expand function (exp.)) to map on to broader categories, and the 'grey' literature was searched using major World Wide Web search engines so as to ensure a thorough search was conducted. Pharmacological treatments were beyond the scope of this study and were excluded from the search. The search was confined to papers published between 1989 and 30/05/2009.

In total, there were 769 hits/papers found. The identified papers were first manually sorted to eliminate the more obviously irrelevant studies, as judged from the title and/or abstract (e.g.

pharmacological, non DD, and non forensic (e.g. one study looked at teaching children to cross the road). This considerably reduced the number of papers to 75. Following this, criteria were used to identify studies suitable for inclusion:

- Were the participants reliably identified as having DD (using standardised measures such as the WISC-IV)?
- Were the participants offenders? Had they committed an act that could result in conviction (regardless of whether offences had resulted in convictions due to the issues around many offences not progressing through the criminal justice route).
- Were there clear references to treatments being used with offenders with DD?
- Were there evaluations of the efficacy of the treatment?

Results

Ten studies fulfilled the criteria outlined above. There were five studies with adults (18 years and over), one study with adolescents (under 18 years of age), one case study on a 14 year old male, and three mixed adolescent/adult studies. These are described in chronological order in Table's 1a and 1b (overleaf). From these ten studies, recommendations and conclusions (both positive and negative) are drawn from the literature on treatment with offenders with DD.

Table 1a: Adolescent study results

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 1 Tse, Strulovitch, Tagalakis, Meng & Fombonne (2007)	Social skills training	Six groups of adolescents with Asperger syndrome and high-functioning autism and challenging behaviour. (n = 46, 61% male, mean age 14.6)	12 weeks long 1 ½ hours a week of combined psychoeducational and experiential methods of teaching social skills, with emphasis on learning through role play.	Parents completed questionnaires immediately before and after the 12-week group. Parents and adolescents were surveyed regarding their experience with the group. Measures included the Social Responsiveness Scale (SRS), the Aberrant Behavior Checklist (ABC), and the Nisonger Child Behavior Rating Form (N-CBRF). They adapted their psychometrics to make them more appropriate for use with DD clients using cartoon based likert scales, and they used a validated, normed measure of social functioning in autism.	Yes	Significant pre- to post-treatment gains were found on measures of both social competence and problem behaviors associated with AS/HFA. Effect sizes ranged from .34 to .72. Adolescents reported more perceived skill improvements than did parents. Parent-reported improvement suggests that social skills learned in group sessions do generalise to settings outside the treatment group.
Study 2 Shenk & Brown (2007)	CBT	Adolescent sex offender with DD 14-year-old White male	Case study teaching skills for managing and reducing sexual arousal and deviancy, challenging cognitive distortions, enhancing empathic responding, developing and using relapse prevention plans, and communicating emotional experiences, providing education on the antecedents for sexually offensive behaviour, social skills development, establishing social support for individual problems, development of socially appropriate skills for regulating sexual arousal, discussing the consequences of sexually offensive behaviour on victims, and initiating and maintaining romantic relationships.	Risk for sexual recidivism was assessed at intake, post treatment, 3month follow up & 6-month follow-up using the Juvenile Sexual Offender Assessment Protocol-II (J-SOAP-II) to assess for reductions in risk for sexual recidivism. Social functioning and adaptive behaviours were assessed using the Vineland Adaptive Behaviors Scale-Extended Form (VABS). The WISC-III was also administered.	Yes	J- SOAP degree of risk for sexual recidivism at discharge was 33%, a considerable decrease from the pre-treatment level of 52%. 3 month post treatment follow up risk for sexual recidivism decreased from the post treatment level of 33% to 25%. Had not recidivated at follow up.

Table 1b: Adult study results in chronological order

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 3 Lund (1992)	American Inpatient treatment programme.	16 males with DD whose mean age at admission was 17.3 years. Mean age at the end of the follow-up period was 24.3 years.	Individual counselling involved feedback regarding progress in crucial areas of behavioural functioning, anger management, discussion of specific instances of sexual behaviour problems, confronting denial or other thinking styles related to sexual behaviour problems, discussion of clients' own abuse experiences when appropriate, victim empathy issues, and assistance in problem solving about various living concerns. With one client, an unsuccessful behaviour therapy approach was attempted using slide assisted covert sensitization procedures in which consequences for maladaptive sexual behaviours were depicted. With another client, a covert behavioural rehearsal approach was used to promote appropriate behaviours in response to situations often associated with aggression. Social skills training typically preceded sex education and served to introduce group participation skills to clients. House programmes were available on one of the three living units and involved token economy programmes and behavioural contracting. Personal living skills were taught and maladaptive behaviours targeted via token economy interventions with more long-term consequences available through individual behaviour contracts/Behavioural management programme	Intelligence classifications were based on DSM III-R criteria and IQ test results based on the most recent testing. Tests included the Stanford-Binet, Wechsler Intelligence Scale for Children-Revised, and Wechsler Adult Intelligence Scale - Revised. Outcome data included recorded numbers of problem behaviours	Partial (questionable)	Outcome was evaluated using a number of criteria, including discharge to a community setting, transfer to a less restrictive setting within the facility, shift to a less restrictive intervention, reduction in targeted maladaptive behaviours in those instances where behaviour management programmes were in effect, successful self-transport at the facility or in the community, and sustained community access or sustained access to home visits. The author and the unit psychologist reviewed cases of clients residing at the facility at the end of the follow-up period using these criteria. At follow-up, eight clients had been shifted to less restrictive settings within or outside the facility. Six of these individuals were discharged to the community and resided outside the facility in less restrictive settings at the end of the follow-up period. Thus, there were a total of 10 clients at follow-up who were served in less restrictive settings or with less restrictive interventions, with eight of the ten living in less restrictive settings. Outcome data consists of frequency recordings of target behaviours.

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 4 Lindsay, Marshall, Neilson, Quinn & Smith (1998)	Group Treatment for exhibitionism	4 men with DD aged 25, 29, 31 & 40.	Weekly sessions for 2 and a half hours. Cognitive design covering the issues of accepting that the offence took place, taking responsibility for the offence, accepting the intention of the offending behaviour, victim awareness, and behaviour consistent with offending	WAIS-R used to establish cognitive functioning. The authors developed a standard assessment of beliefs consistent with indecent exposure.	Yes	For all four cases presented there has been some change in attitudes toward indecent exposure during the course of treatment. In all cases there were no recorded incidents of re-offending 6 years after the initial conviction. Effect sizes not given though.
Study 5 Rose, Jenkins, O'Connor, Jones, & Felce (2002)	Group intervention	Men with DD who have sexually offended or abused others. 6 men but 1 dropped out. Aged 34, 37, 43, 29, 17,	A therapeutic group that ran each week for 16 weeks (2 hours in duration). The content of the group included: sex education; identifying feelings in oneself and others; consent; appropriate assertiveness; the effects of offending on victims; self-control procedures and methods of avoiding risky situations. Group sessions also looked at the offending cycle (Wolf 1985) and thoughts related to masturbation. Included a variety of methods of presentation such as role-play, interactive exercises, video and more formal teaching techniques (e.g. using a flip chart, work in pairs with facilitators or supporters). The group had a mixture of educational and cognitive components.	A number of assessments were conducted prior to the group, immediately after the group and at 3- and 6-month follow-up. The Wechsler adult intelligence scale revised (WAIS-R) was used to assess cognitive functioning. The questionnaire on attitudes consistent with sex offences (QASCO, Lindsay et al. 1998a & b) an attitude scale specifically developed for sex offenders with an intellectual disability; the Nowicki-Strickland scale (NS, Nowicki 1976), a measure of locus of control; the sexual behaviour and the law scale (SBL) a knowledge questionnaire developed by the research team and the victim empathy scale (Beckett & Fisher, unpublished data).	Partial	Attitudes consistent with offending reduced after participation for most participants, however, these tended to revert to pre-group levels over time. Locus of control became more external after the group treatment, this was contrary to expectations and results obtained with interventions for individuals without an intellectual disability. Knowledge tended to increase after the group, however, problems with the questionnaire used made interpretation of the results difficult. No further incidents of sexual abuse have been recorded by any of the five group members who completed the group, since the start of the group (a period of 1 year to date). The only significant difference was found between scores on the Norwiki-Strickland locus of control scale. Scores on this increased from a mean of 15.75-20.5 (t, _19.0; SD, 0.5; P < 0.001). This indicated a more external locus of control after intervention.

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 6 Taylor, Thorne, Robertson & Avery (2002)	Cognitive behavioural group	14 men and women with mild and borderline ID, convictions for arson and detained in a hospital low secure service. Eight men and six women ranging in aged from 20 to 48 years. Study participants took part in one of three groups: one female group ($n = 6$) and two male groups ($n = 4$ in each).	Approx 40 sessions delivered twice weekly for two hours aimed primarily at reducing fire interest and attitudes associated with fire-setting behaviour. Multi-faceted programme based on the approach outlined by Jackson (1994), and similar to that described by Swaffer et al. (2001). This approach is consistent with the 'functional analysis paradigm' (p. 175) of Jackson et al. (1987) for recidivistic arson. Within a broad cognitive behavioural framework, clients' offence cycles were analysed in terms of antecedent setting factors and triggers; the cognitions, emotions and behaviour they experienced at the time fires were started; and the positive/negative consequences of their fire-setting behaviour. Clients received education concerning the dangers and costs associated with setting fires. The acquisition and rehearsal of skills to enhance future coping with emotional and interpersonal problems associated with previous fire-setting behaviour were worked on and the development of personalised relapse prevention. Seven treatment modules: group establishment, group cohesion, information and education, offence analysis, alternative skills training, family and related issues, and risk management/reduction.	Participants were assessed pre- and post-treatment on a number of fire-specific, anger, self-esteem and depression measures. Fire Interest Rating Scale (FIRS) Murphy and Clare (1996) Fire Attitude Scale (FAS) Muckley (1997) Goal Attainment Scales (GAS) (Kiresuk & Sherman, 1968; Milne & Learmonth, 1991) Novaco Anger Scale (NAS) Culture-Free Self Esteem Inventory - 2nd Ed, Form AD (CFSEI-2) (Battle, 1992) Beck Depression Inventory – Short Form (BDI-SF) (Beck & Beck, 1972).	Yes	Significant improvements were found in all areas assessed, except depression. <i>Fire-specific measures</i> Significant improvements were found following treatment on the Fire Interest Rating and Fire Attitude Scales ($t(13) = 2.19, p < 0.05$ and $t(13) = 2.50, p < 0.05$ respectively). On the FIRS, 10 of the 14 participants improved following treatment. The same number also improved on the FAS. All Goal Attainment Scales (GAS) mean scores improved following treatment and three of the six improved significantly. These were 'victim issues' ($t(13) = 4.84, p < 0.001$), 'emotional expression' ($t(13) = 2.19, p < 0.05$), and 'understanding of risks' ($t(13) = 3.79, p < 0.005$). The GAS total score also increased significantly post-treatment ($t(13) = 4.79, p < 0.001$).

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 7 Willner, Jones, Tamsy & Green (2002)	RCT of CBT based treatment for aggression	Fourteen clients with learning disabilities referred for anger management. Mean (SD) age (years) control =30.4 (12.4) treatment = 31.4 (14.2) Males and females Female/male control =2/5 treatment =3/4 16 clients were allocated randomly (alternate referrals) to an immediate treatment group and a waiting-list control group. 2 clients dropped out.	Treatment consisted of nine 2 hour group sessions, using brainstorming, role-play and homework, cognitive strategies, (assertiveness)	2 x Self reports Anger Inventory (AI) (Benson & Ivins 1992) and a Provocation Index (PI) (Novaco 1994). The same two questionnaires were also completed, in interview, by a carer (parent, residential or day-care key-worker, or case manager), who was asked to estimate the anger their client would display in each situation, using the same four-point cartoon based scale. WASI scores	Yes	Clients in the treated group improved, on both self- and carer-ratings, relative to their own pre-treatment scores, and to the control group post-treatment. The within-group improvement corresponds to a 'moderate' (0.68 SD) effect size, whereas the between-group improvement corresponds to a 'large' (1.76 SD) effect size. Clients in the treated group showed further improvement relative to their own pre-treatment scores at 3-month follow-up.

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 8 Barron, Hassiotis & Banes (2004)	A review of the efficacy of treatments provided including various psychotherapies, behavioural therapies, skills training and medication.	61 individuals were identified from contact with either 1) specialist health and social services for people with DD or 2) non-specialist services in the criminal justice or (forensic) mental health/social service systems. Reliably identified as having DD (but DD classified as IQ lower than 80). Mean age 33.1 SD 10.3. 53 males and 8 females.	Participants were asked about all treatments they had received. The response was then cross-referenced with carer responses, treatment provider responses and case file records, where possible. The treatments covered included: a variety of psychotherapies, behavioural therapies, skills training and medication. All psychological treatments were defined by the researchers using criteria found in textbooks or recent research. Over two-thirds of all participants (69.5%) were offered some form of psychological therapy, which was usually for a period of over 6-month duration. Practical skills training/activities of daily living was given to one-third.	This study initially used a self-report four-item screening instrument, which was derived from an earlier IDO study (Lyall et al. 1995). The WAIS was used for confirming the presence of cognitive functioning in the DD or low borderline intellectual functioning range. The Aberrant Behaviour Checklist (ABC) (Aman & Singh 1986) assessed for the presence and severity of various behavioural problems. The Psychiatric Assessment Schedule for Adults with DD, shortened version (Mini PAS-ADD) (Moss et al. 1993) screened for mental disorders in individuals with ID. It examines for the presence of psychotic disorders, mood disorders (depression and mania), anxiety, unspecified disorders (associated with cognitive decline), obsessive compulsive disorders and pervasive developmental disorders (PDD). A semi-structured questionnaire was developed. It examined demographic and other characteristics, considered to be relevant in previous forensic DD research.	No	The participants were assessed at baseline and after a mean of 10 months in order to compare recidivism rates and the impact of therapeutic interventions. Despite the high rates of psychopathology, there was little evidence for efficacy of therapeutic interventions, which, where offered, appeared to be of a non-specific nature. At second interview, approximately half of the sample had re-offended. Follow-up consisted of one telephone conversation with carers. Questions related to: change in medication/ diagnosis/Mental Health Act status, contact with the police/re-offending, type of further offending and change in placement. There was no significant difference between the two groups in terms of the number of further offences or the type of offence committed by the time of the second assessment.

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 9 Craig, Stringer & Moss (2006)	Community group treatment lasting 7 months. The authors felt it should have been longer to produce more significant effects	The treatment group consisted of six men aged 17-37. All men had committed at least one previous sexual offence with two having committed two previous sexual offences, and all had DD.	7-month treatment programme comprising of four main components: sex education, cognitive distortions, offending cycle, and relapse prevention. Therapeutic intervention took the form of cognitive behavioural therapy in group sessions running for 2 hours once a week for 7 months. The content of the group included sex education and the law, identifying and reconstructing cognitive distortions, developing victim empathy and relapse prevention skills. The cycle of offending (Finkelhor, 1984) and thoughts related to sexual fantasy and masturbation. Information was presented using a number of different methods including pictures, drawings, interactive exercises, videos, quizzes, and structured group discussions. The focus was on frequent repetition of simple, pictorially presented information until assimilated by the individual and the principles applied to a variety of contexts.	WAIS and WASI the Multiphasic Sex Inventory (MSI), the Coping Response Inventory (CRI), the Psychiatric Assessment for Adults With a DD (mini-PAS-ADD), and the VABS. Changes in adaptive and social functioning, communication, and socialisation skills were measured using the VABS. The VABS also provides an estimate of the participant's developmental level.	Partial	No significant differences were found in attitudes toward sexual offending following treatment, the trend was for improvements in sex knowledge and honesty of sexual interest. Improvements in socialisation skills (leisure time and interpersonal skills) were significant. No further incidents of sexual offending have been reported during a 12-month follow-up. The only significant difference was found between the scores on the VABS. The Socialisation Domain ($z = -2.201$, $p < 0.05$) and Play and Leisure Time scale of the VABS ($z = -2.201$, $p < 0.05$) were significantly different post- intervention. Although not significant, the trend was for improvements in admitting sexual interests (MSI Lie Scale: $z = -1.857$, $p = 0.6$) and sex knowledge (MSI Sex Knowledge Scale: $z = -1.753$, $p = 0.8$). 12 month follow up = no convictions

Study	Treatment Reported	Sample	Treatment Description	Assessment Procedure	Effective Yes / No	Effect Size
Study 10 Murphy, Powell, Guzman & Hays (2007)	CBT	In total seven men who had shown sexually abusive behaviours completed the first group and eight completed the second group, of whom two had also attended all of the first group. Not all of these men consented to participate in the research. Intellectually disabled (IQ lower than 70) and 2 men on the Autistic spectrum with IQ's of 74 and 83. The results reported refer to 10 sets of data, referred to as 10 cases'. These data arose from eight men because two men were taking part in both groups 1 and 2. For the 10 cases, the mean age at the start of the groups was 37.7 years (SD 13.5). For the eight men (i.e. excluding the data from the second group for the two men who were repeating the treatment), the mean age was 38.8 years (SD 14.6) ($n = 8$).	Approx. 1 year in duration, 2-hour session once per week. The group was a closed group. The treatment sessions in the first group involved the following topics: <ul style="list-style-type: none"> • Group purpose and group rules; • Body part names; • Social rules for dressing/undressing and touching; • Social and sexual relationships; • What is legal, illegal and risky in sexual behaviour; • Feelings in stressful situations and coping with feelings; • Consequences for the men of their sexual behaviour; • Descriptions by the men of their illegal sexual behaviour; • How hard it is to talk about illegal sexual behaviours and how men cope with this (including denial, minimization, victim blaming); • Their experiences of being victims themselves; • How other people feel when they are victims; • How their own victims felt; • Causes of their own sexual behaviour; • Understanding offence cycles; • Understanding choice, consent and age of consent; and • Relapse prevention. The topics for the second group were extremely similar.	Demographic data. Measures of change in sexual knowledge, victim empathy and cognitive distortions were collected, together with a log of further sexually abusive behaviour. The degree of ID was measured using the Wechsler Adult Intelligence Scale-Third Edition, WAIS-III, Wechsler 1997). Adaptive behaviour (on the Vineland Scales of Adaptive Behaviour, Sparrow et al. 1984). Receptive language (using the British Picture Vocabulary Scale-II, BPVS-II; Dunn et al. 1997). Sexual Attitudes and Knowledge Scale (SAKS), attitudes towards sexual offending measured by the Questionnaire on Attitudes Consistent with Sexual Offending (QACSO), their degree of minimisation, denial of the offence(s), blame for the victim measured by the Sexual Offenders Self Appraisal Scale (SOSAS) and their degree of victim empathy measured by the Victim Empathy Scale-Adapted (VES-A).	Partial	The results for the eight men who consented to the research and completed treatment showed significant positive changes in sexual knowledge and victim empathy (two men completed both groups, making 10 sets of data in all). Cognitive distortions showed significant change on only one of the two measures. 3 men showed further sexually abusive behaviour either during or after the treatment group (all of these men had been previously diagnosed as on the autistic spectrum and 2 of which had been identified as needing to do group 2 as well). When the two men who attended both groups 1 and 2 were excluded from the group 2 data (so that all eight men only appeared once in the data), there were still significant improvements in the men's sexual knowledge ($P < 0.03$) and victim empathy ($P < 0.05$) and interestingly the changes in QACSO scores were now significant ($P < 0.05$). There were still no improvements in SOSAS scores.

Adolescent Studies

Study 1: Tse, Strulovitch, Tagalakis, Meng and Fombonne (2007)

What is the nature of the treatment used?

Tse, Strulovitch, Tagalakis, Meng, and Fombonne (2007) (see Table 1a) conducted a social skills treatment group for six groups of adolescents with Asperger Syndrome and High Functioning Autism and challenging behaviour/aggression totalling 46 adolescents (mean age 14.6 years). They adapted their psychometrics to make them more appropriate for use with clients with DD using cartoon based likert scales, and they used a validated, normed measure of social functioning in autism. The treatment group consisted of a 12 week long social skills training programme. There were 1 and a half hours a week of combined psychoeducational and experiential methods of teaching social skills, with an emphasis on learning through role play.

What is the effectiveness of the treatment used?

Significant post treatment gains were found on measures of both social competence and problem behaviours. Effect sizes ranged from 0.34 to 0.72. Adolescents reported more perceived skill improvements than did their parents. Parent-reported improvement suggests that social skills learned in group sessions generalised to settings outside the treatment group. The authors recommend that larger, controlled studies of social skills training groups would be valuable. The study did not collect follow up data.

Study 2: Shenk and Brown (2007)

What is the nature of the treatment used?

Shenk & Brown (2007) present a case study of a CBT based treatment with a 14-year-old adolescent sex offender with an intellectual disability (see Table 1a for more details). The treatment focused on teaching skills for managing and reducing sexual arousal and deviancy, challenging cognitive distortions, enhancing empathic responding, developing and using relapse prevention plans, and communicating emotional experiences, providing education on the antecedents for sexually offensive behaviour, social skills development, establishing social support for individual problems, development of socially appropriate skills for regulating sexual arousal, discussing the consequences of sexually offensive behaviour on victims, and initiating and maintaining romantic relationships.

What is the effectiveness of the treatment used?

The results of the pre and post measures using the J- SOAP risk assessment (a risk assessment for adolescents but not designed for adolescents with DD, suggested that the degree of risk for sexual recidivism at discharge was 33%, a considerable decrease from the pre-treatment level of 52%. This then decreased further at the 3 month post treatment follow up risk for sexual recidivism from the post-treatment level of 33% to 25%. However the major limitation to this study was that it did not use single case statistics to assess the presence and reliability of any clinically significant change.

Adult Studies

Study 3: Lund (1992)

What is the nature of the treatment used?

Lund (1992) (see Table 1b for more details) looked at the overall efficacy of an American inpatient treatment programme for sixteen males with DD (mean age = 17.3 years) deemed to have serious sexual behaviour problems. They received combinations of individual counselling (on behavioural functioning, anger management, discussion of specific sexual behaviour problems, confronting denial or other thinking styles associated with offending, discussion of own abuse where appropriate, victim empathy issues and problem solving) as well as social skills training, sex education, unit programmes, token economy and individualised sexual behaviour management programmes.

What is the effectiveness of the treatment used?

Outcome in Lund's study was evaluated using a number of criteria, including discharge to a community setting, transfer to a less restrictive setting within the facility, shift to a less restrictive intervention, reduction in targeted maladaptive behaviours in those instances where behaviour management programmes were in effect, successful self-transport at the facility or in the community, and sustained community access or sustained access to home visits. Eight clients had been transferred to less restrictive settings within or outside the facility. Six of these individuals were discharged to the community and resided outside the facility in less restrictive settings at the end of the follow-up period. Thus, there were a total of 10 clients at follow-up who were served in less restrictive settings or with less restrictive interventions, with eight of the ten living in less restrictive settings. Outcome data also consisted of frequency recordings of target behaviours. However, it is difficult to ascertain which elements of the treatment programme brought about any change, and there is no recidivism data. The

data from this study suggest that more favourable outcomes were obtained with those individuals who had fewer collateral behaviour problems, were older at admission, were exposed to services more rapidly, and functioned at higher levels intellectually. Overall this study reports a lot of information though its partial treatment efficacy claims are questionable based on the outcome data used (transfer to a less secure facility would not necessarily indicate effective treatment or a reduction in recidivism risk).

Study 4: Lindsay, Marshall, Neilson, Quinn and Smith (1998)

What is the nature of the treatment used?

Lindsay, Marshall, Neilson, Quinn and Smith (1998) (see Table 1b) present four male case studies (aged 25, 29, 31 and 40) of sex offenders with DD who have completed a group treatment. The treatment comprised of weekly sessions for 2 and a half hours, and covered issues such as accepting that the offence took place, taking responsibility for the offence, accepting the intention of the offending behaviour, victim awareness and looking at behaviour consistent with offending.

What is the effectiveness of the treatment used?

They report that none of the individuals recidivated, and that there was some change in attitudes, however the study does not include effect sizes, making it difficult to verify the claims.

Study 5: Rose, Jenkins, O'Connor, Jones and Felce (2002)

What is the nature of the treatment used?

Rose, Jenkins, O'Connor, Jones and Felce (2002) report on a 16 week group treatment (2 hours in duration per week) for men with DD who have sexually offended or abused others. There were six participants in total (aged 34, 37, 43, 29 and 17), however one was reported to have dropped out. The content of the group included: sex education; identifying feelings in oneself and others, consent, appropriate assertiveness, the effects of offending on victims, self-control procedures and methods of avoiding risky situations. Group sessions also looked at the offending cycle (Wolf, 1985) and thoughts related to masturbation. The treatment employed a variety of techniques including role-play, interactive exercises, video and more formal teaching techniques (e.g. using a flip chart, work in pairs with facilitators or supporters). The group included educational and cognitive components. The study employed a variety of psychometric assessment measures, one of which the QACSO, (Lindsay et al, 1998) is designed for individuals with DD.

What is the effectiveness of the treatment used?

The study reports that attitudes consistent with offending (as measured by the QACSO) reduced after participation for most participants, however, these tended to revert to pre-group levels over time. The only significant difference was found between scores on the Norwiki Strickland locus of control scale. Scores on this increased from a mean of 15.75 to 20.5 ($t = 19.0$; $SD = 0.5$; $p < 0.001$). This indicated a more external locus of control after intervention, which was contrary to expectations and results obtained with interventions for individuals without DD. Knowledge tended to increase after the group, however, the authors acknowledge the limitations that made interpretation of the results difficult specifically in terms of the use of questionnaires which are not specifically designed for individuals with DD. Post commencing the group (a period of 1 year at the time the article was published) no further incidents of sexual abuse were recorded for any of the five group members who completed the programme. Participants reported finding it useful but repetitive. Therefore this study reports mixed findings. It is successful based on recidivism rates, but unsuccessful based on the results of the psychometric measures employed.

Study 6: Taylor, Thorne, Robertson & Avery (2002)

What is the nature of the treatment used?

Taylor, Thorne, Robertson & Avery (2002) report on a group designed to treat individuals with DD who have offences of fire setting. The treatment involved approximately 40 sessions which were delivered twice weekly for two hours. These aimed to reduce fire interest and attitudes associated with fire-setting behaviour. According to Taylor, Thorne Robertson & Avery (2002), clients' offence cycles were analysed in terms of antecedent setting factors and triggers; the cognitions, emotions and behaviour they experienced at the time fires were started; and the positive/negative consequences of their fire-setting behaviour. This was done based on a functional analysis framework. Clients also received education concerning the dangers and costs associated with setting fires. Skills to enhance future coping with emotional and interpersonal problems associated with previous fire-setting behaviour were taught and rehearsed and personalised relapse prevention plans were developed. In all the treatment was composed of seven treatment modules: group establishment, group cohesion, information and education, offence analysis, alternative skills training, family and related issues, and risk management/reduction.

What is the effectiveness of the treatment used?

The study provides a comprehensive programme description, but is limited in its use of psychometric measures which are not specifically designed for individuals with DD. However the author is unaware of any measures of factors associated with fire setting which are specifically designed for this population. The study showed significant improvements in all areas assessed (fire interest, fire attitude, self esteem, anger, goal attainment), with the exception of depression. Significant improvements were found following treatment on the Fire Interest Rating and Fire Attitude Scales ($t(13) = 2.19, p < 0.05$ and $t(13) = 2.50, p < 0.05$ respectively). On the FIRS, 10 of the 14 participants improved following treatment. The same number also improved on the FAS. All Goal Attainment Scales (GAS) mean scores improved following treatment and three of the six improved significantly. These were 'victim issues' ($t(13) = 4.84, p < 0.001$), 'emotional expression' ($t(13) = 2.19, p < 0.05$), and 'understanding of risks' ($t(13) = 3.79, p < 0.005$). The GAS total score also increased significantly post-treatment ($t(13) = 4.79, p < 0.001$). An advantage of this study was that it includes a group of female offenders which is a sub group of the population of interest upon which research is even sparser.

Study 7: Willner, Jones, Tamsy and Green (2002)

What is the nature of the treatment used?

Willner, Jones, Tamsy and Green (2002) conducted an RCT with 14 clients with DD (see Table 1b). The mean age of the participants was 31.4 years. The study evaluated a cognitive behavioural therapy treatment for anger management, which consisted of nine 2 hour long group sessions. They used techniques employing cognitive strategies, brainstorming, role play and homework and covered assertiveness skills.

What is the effectiveness of the treatment used?

Willner, Jones, Tamsy and Green (2002) concluded that the treatment was effective in decreasing anger. However this study was on a small sample of just 14 participants which is a criticism that applies to the majority of the studies in this review. The within group improvement is reported to correspond to a moderate (0.68 SD) effect size whereas the between group improvement corresponds to a large (1.76 SD) effect size. In addition, clients in the treated group showed further improvement relative to their own pre-treatment scores as measured by the NAS-PI (Novaco, 1994). Although this is not a psychometric designed for offenders with DD, the authors made attempts to improve the reliability of the scores by obtaining a carer's scores on the questionnaire for the person also.

Study 8: Barron, Hassiotis and Banes (2004)

What is the nature of the treatment used?

Barron, Hassiotis and Banes. (2004) (see Table 1b) reviewed the literature in the area of specific therapeutic interventions, including various psychotherapies, behavioural therapies, skills training and medication. Sixty one individuals (Mean age 33.1 years, SD 10.3) were identified from contact with either 1) specialist health and social services for people with developmental disabilities or 2) non-specialist services in the criminal justice or (forensic) mental health/social service systems. Participants in the study were asked about all the treatments they had received. Their responses were then cross-referenced with carer responses, treatment provider responses and case file records, where possible. The treatments covered included a variety of psychotherapies, behavioural therapies, skills training and medication. Over two-thirds of all participants (69.5%) were offered some form of psychological therapy, which was usually for a period of over six months in duration. Practical skills training/activities of daily living were given to one-third of participants.

What is the effectiveness of the treatments used?

Barron, Hassiotis and Banes (2004) assessed participants at baseline and after a mean of 10 months in order to compare recidivism rates and the impact of therapeutic interventions. They found little evidence for the efficacy of therapeutic interventions, and where there were interventions offered these tended to be non specific in nature. At second interview, approximately half of the sample had re-offended.

Study 9: Craig, Stringer and Moss (2006)

What is the nature of the treatment used?

Craig, Stringer and Moss (2006) (see Table 1b) conducted a group community treatment with six men (aged 17-37) who had committed sexual offences. The treatment was comprised of four main components: sex education, cognitive distortions, offending cycle, and relapse prevention. The content of the group work as identified by Craig and Hutchinson (2005) included sex education and the law, identifying and reconstructing cognitive distortions, developing victim empathy and relapse prevention skills. Group sessions also looked at the cycle of offending (Finkelhor, 1984) and thoughts related to sexual fantasy and masturbation. The sessions ran for 2 hours once a week for 7 months. The treatment utilised techniques such as presentation of information in visual formats, including pictures, drawings, videos, as well as interactive exercises such as quizzes, and structured group discussions. The treatment also

used frequent repetition of simple, pictorially presented information until, the authors claim, it was assimilated by the individual and the principles applied to a variety of contexts.

What is the effectiveness of the treatment used?

Craig, Stringer and Moss (2006) felt that they would have seen more significant improvements if their community group treatment had been longer in duration. They found no significant differences in attitudes toward sexual offending following treatment, but did find a trend for improvements in sexual knowledge and honesty of sexual interest. Improvements in socialisation skills (leisure time and interpersonal skills) were also significant, and no further incidents of sexual offending were reported during a 12-month follow-up. Whilst designed and reported particularly well, the sample size of this treatment evaluation was small (six men). Attempts were made to make the assessment tools more appropriate to individuals with DD, and the study states that the questions were read out to the participants due to their limited literacy skills.

Study 10: Murphy, Powell, Guzman and Hays (2007)

What is the nature of the treatment used?

Murphy, Powell, Guzman and Hays (2007) (see Table 1b for more details) report on a CBT group for 14 men (mean age 37.7, SD 13.5) who had shown sexually abusive behaviours. The group lasted for approximately 1 year and comprised of a 2 hour session once per week. The treatment sessions involved the following topics: Group purpose and group rules; body part names; social rules for dressing/undressing and touching; social and sexual relationships; what is legal, illegal and risky in sexual behaviour; feelings in stressful situations and coping with feelings; consequences for the men of their sexual behaviour; descriptions by the men of their illegal sexual behaviour; how hard it is to talk about illegal sexual behaviours and how men cope with this (including denial, minimisation, victim blaming); their experiences of being victims themselves; how other people feel when they are victims; how their own victims felt; causes of their own sexual offending; understanding offence cycles; understanding choice, consent and age of consent; and relapse prevention.

What is the effectiveness of the treatment used?

There was data available for eight men. Significant improvements were found in sexual knowledge and victim empathy. Cognitive distortions showed change on only one of the two measures of attitudes consistent with sexual offending. This happened to be on the QACSO which is a scale designed specifically for offenders with DD. The study included recidivism

data, which highlighted that three men engaged in further sexually abusive behaviour. All of these men were on the Autistic Spectrum. This may suggest that the treatment for individuals with ASD needs to be further adapted in order to meet potentially differing needs. Overall this study appeared to be of sound methodological quality and a good array of measures were utilised. It is more realistic however to look at the data which excludes the two men who had been included on both groups (so that all eight men only appear once). There were still significant improvements in the men's sexual knowledge ($p < 0.03$) and victim empathy ($p < 0.05$) and interestingly the changes in QACSO scores were now significant ($p < 0.05$). There were still no improvements in SOSAS scores.

Discussion & Future Recommendations

The aim of this review of the literature is to promote understanding of available treatment practice, and the effectiveness of treatments within populations of adolescents with DD who have offended. Findings gleaned from studies with adults were also considered, highlighting the limitations and strengths of research generally in this area, and providing a global picture of treatment practice for offenders with DD. The inclusion criteria for the literature review were that 1) the studies were specifically concerned with, or specifically included, people who were reliably identified as having learning disabilities and/or ASD (employing the term Developmental Disabilities), 2) were offenders (regardless of whether or not they were involved in the criminal justice system), 3) addressed the treatment of offenders with DD, and 4) reported an evaluation of treatment efficacy. The research findings will now be discussed and synthesised.

Summary of Findings

In summary, the literature which specifically evaluates treatment for adolescents with DD who have offended is sparse. Only two studies met the criteria for this review, one of which was a case study on a single client, and thus the findings are very limited. However the studies did highlight that research is beginning to emerge which suggests that treatments aimed at reducing offending behaviours in adolescence are in part successful. The two adolescent studies identified require major improvements to their methodological design, and the need for further research in the area with larger samples is considered. With adolescence being such a critical time for development it is crucial that these individuals receive the appropriate treatment they require as assessed by appropriate means. The reasons for the lack of literature in the area are unknown. It could possibly be that adult programmes are being used or that programmes are being developed but not disseminated. Further potential reasons

are suggested by Brown, Hassiotis and Banes (2004) and include: the practical difficulty of providing specific therapeutic interventions for this group of individuals (for instance their level of understanding); current research evidence is not applicable to the everyday clinical situation; or the numbers of offenders with DD in a single district are too low for local teams to develop appropriate expertise and range of interventions. A major advantage of one of the adolescent studies (Shenk & Brown, 2007) was that it provided follow up data, which highlighted further improvements in scores and reported on recidivism. The adolescent in question had not recidivated at follow up.

From the search of the literature, this review identified three further studies which involved adolescents and adults, and five studies based purely upon adults (above 18 years of age). Previously, studies on adults with DD who have offended have criticised the lack of information provided regarding the impact of programmes on recidivism, as well as a general lack of long-term follow-up of the maintenance of change (Hayes, 2004). However the majority of the studies in this review (seven) did provide follow up data, and those studies that did, on the whole reported positive findings with further improvements noted on measures, and the majority of studies reporting no further recidivism. The exceptions to positive change at follow up were highlighted in those studies that measured attitudes consistent with offending.

Rose et al (2002) highlighted that attitudes consistent with offending reverted back to pre-group levels over time. Lindsay et al (1998) reported some change in attitudes towards indecent exposure but did not provide effect sizes and only reported follow up data for recidivism not attitudes. Interestingly, in Craig, Stringer and Moss' (2006) study, no significant differences were found in attitudes toward sexual offending following treatment. It may be that attitudes towards offending are fairly stable in populations of individuals with DD. This would warrant further research, perhaps using tools such as the one identified in Chapter 4, or the QACSO (a rare tool designed specifically for individuals with DD to assess attitudes consistent with sexual offending). Despite this limited/lack of change in attitudes, trends were noted (where measured), in increased knowledge and understanding or risks/offence related issues (Taylor, Thorne, Robertson & Avery, 2002; Rose, Jenkins, O'Connor, Jones & Felce, 2002; Craig, et al., 2006; Murphy, Powell, Guzman & Hays, 2007). This finding was also consistent across offending types (violence, sexual and arson). It may be that increased understanding of offence related risk is of paramount importance in preventing recidivism in populations of individuals with DD.

Past research has found that sexual recidivism was more likely when the treatment was unexpectedly terminated (for instance due to a lack of cooperation by the client), and also that shorter periods of intervention were significantly less effective than treatment for two or more years (Law, Lindsay, Quinn & Smith, 2000). The importance of this finding is emphasised by Craig et al. (2006) who suggest that they may have seen more significant results had the intervention been longer than the original 7 month duration. In another study on sex offenders considered in this review, Murphy, Powell, Guzman and Hays (2007) found significant positive changes in some areas but there were 3 men out of 10 who recidivated. Their treatment was a year in duration. Due to the difficulties in comparing studies, including the lack of standardised assessments, the treatments associated with the best outcome cannot be ascertained definitively, but there is some evidence outside of the studies looked at in this review, that in terms of sexual offending, duration of treatment greater than two years is associated with decreased risk of re-offending (Leonard et al., 2005).

Whilst the research on treatments for adolescents with sexually abusive behaviour are advancing, and treatments for violence, social skills and fire-setting are beginning to emerge, no studies evaluating the treatment effectiveness of any substance abuse treatments were found for this population which fulfilled the search criteria in this review. According to Smith and O'Brien (2004, p.241), several studies have reported on problematic substance misuse in teenagers with DD, and treatment programmes are reported to take place in some community and inpatient settings, but evaluations of treatment effectiveness using well designed studies is not forthcoming. Smith and O'Brien (2004) report that the difficulties with substance misuse programmes for offenders with DD are that the individuals tend to lack the insight and executive functioning allowing them to comprehend the importance of engaging in programmes. This however is a potential limitation that could be applied to all treatments.

Methodological Issues

Certain issues have further hampered the progress of research in the area of individuals with DD who display offending behaviours, and have significantly limited the interpretability of the findings in some of the studies in this review. Specifically the main causes for concern are highlighted by Hayes (2004) as: small sample sizes, programmes being offered in community or hospital settings, rather than in prisons, with obvious differences in institutional aims, in addition to multi modal and multi-disciplinary treatment programmes whereby it is difficult to identify the cause of any change.

It appears that with few exceptions, many of the studies in the area are hampered in terms of their methodological designs and choice of evaluation of treatment efficacy, hence why so few clear treatment studies are included in this review. Those that have been conducted on adults with DD who have offended appear to have comprehensive treatment approaches but difficulties with methodological design. However, on a positive note, research that is emerging is beginning to take into consideration the recommendations that have arisen as a result of a need for specific tailor made assessments and treatments for offenders with DD, who up to now have been a largely ignored population.

For instance the study by Craig et al. (2006) reports comprehensively on its design and evaluation of a group treatment in the community with sex offenders with DDs aged between 17 and 37, but the authors themselves acknowledge the limitations which arise as a result of working with individuals with DD, and highlight areas where improvements could be made. They attempt to overcome some of those difficulties including small sample sizes and claim:

“Because of the small sample of the group, attention is paid to the individual descriptions of the participants and their treatment progress” (p.4).

The treatment is designed around the recommendations of previous research regarding the presentation of information in visual formats, using a number of different methods including pictures, drawings, interactive exercises, videos, quizzes, and structured group discussions, and the focus of the framework is one of frequent repetition of simple, pictorially presented information until assimilated by the individual and the principles applied to a variety of contexts (Craig, Stringer & Moss, 2006).

Future Recommendations

The majority of the treatment programmes reported on in this review have adapted their treatment approaches to take into account the specific needs of offenders with DD, including impairments in verbal comprehension and expressive language performance. Specific adaptations include the simplification of concepts, the use of visual imagery, and variety in the presentation of information, as well as an emphasis on the generalisation of skills developed in treatment to day-to-day environments and the development of relapse prevention plans. It seems that these approaches are generally accepted to be more effective, and are widely used. Thus future work needs to look into the areas which are proving problematic particularly in terms of the methodological designs of studies, the assessment measures used,

and looking further into the interesting results regarding attitudes. However the results of this literature review would emphasise the importance of improving methodological design above all else.

Researchers and clinicians in the field strongly recommend that larger, randomised controlled trials are conducted to more effectively evaluate and empirically support the benefit of using specific treatments with adolescent offenders, with and without DD (Shenck & Brown, 2007). Given the large financial impact of incarceration of sexual offenders, the developmental ramifications of the incarceration of adolescents with DD, and the psychological impact victims of offences endure, the need for an empirically supported treatment for this clinical population is great (Shenk & Brown, 2007).

It is acknowledged that in reality RCT's are difficult to implement, if only for the fact that they require untreated comparison groups. To withhold treatment when there is a need is ethically unsound. Yet the lack of controlled studies of treatments for offenders with DD, make it impossible to comment definitively about treatment outcomes in this population. Thus, Lindsay (2002) one of the leading researchers in the field, suggests that while it may be considered unethical to allocate offenders to a no treatment or placebo treatment condition, paradoxically, these may be required to establish the effectiveness of an intervention (Lindsay, 2002). Alternatively, whilst not ideal, comparison groups could be used rather than control groups.

In the absence of RCT's, research has focused on alternative ways of evaluating treatment effectiveness in this client group, and although a paucity of research exists, attempts have been made to develop treatments specifically designed to address the needs of offenders with DD. As such, more case study designs are beginning to emerge. Clare and Murphy (1998) recommend publication of carefully described single cases that might elucidate the context and process of successful therapeutic work. However, while a series of case studies may suggest a variety of promising therapeutic avenues, Lindsay, Law and McLeod (2002) note that they can be unreliable and even misleading (Lindsay, 2002). Despite some cases having had long (4–8 years) and carefully conducted follow-ups, there remains a necessity for a series of controlled studies across different offending behaviours (Lindsay, 2002).

Chambless and Hollon (1998) discuss criteria by which treatments and treatment studies should be evaluated. It is hoped that whilst some of the examples discussed in this review

have used some of these criteria, future research will adopt these when investigating the efficacy of treatment approaches for adolescent offenders with DD. They suggest that 1) group-design studies should involve random assignment (or well-controlled single-case or within-group studies); 2) studies should be well-documented and thus produce replicable treatment procedures (e.g., as detailed in a manual); 3) there should be evidence of uniform therapist training and of therapist adherence to planned procedures; 4) tests should involve clinical samples, or at least youngsters who would have been treatment candidates independently of the outcome study; 5) multi-method outcome assessment should be used 6) tests of the clinical significance of outcomes should be provided (e.g. single case statistics etc); 7) tests of treatment effects on real-world, functional outcomes in addition to symptoms; and 8) assessment of long-term outcomes well beyond treatment termination.

There is reason to believe that research should also consider the impact of facilitator characteristics, amongst other issues when looking at treatment effectiveness, for instance the incorporation of techniques for maintenance of client's skills, formulation meetings and general issues pertinent to effective communication. Lambrick and Glaser (2004) suggest that daily care staff incorporated as facilitators (with training), and in vivo monitoring of offenders by those trained support staff, provide a much more accurate and meaningful picture of an offender's behaviours than most other assessment strategies. Indeed, research has established that the quality of programme delivery affects the outcomes that can be achieved. Thus these are issues to be considered in the identification/design of treatments for adolescent offenders with DD in the future.

Functional analysis appears to be becoming an integral step towards tailoring the treatment intervention specifically to the individual (Matson, Dixon & Matson, 2005), and was utilised well in study 6 by Taylor et al. (2007). It is suggested that as researchers continue to recognise the importance of this procedure, the utility of treatment methods for specific behaviour functions should become clearer (Matson, Dixon & Matson, 2005). Determining the function of offending in adolescents with DD, and whether this is a different phenomenon to offending both in adults, and in non DD adolescents, remains an important component of treatment design.

Until such time that accurate assessments can be established, we are limited to drawing tentative conclusions regarding the efficacy of those treatment interventions for adolescent offenders with DD and whether their treatment needs are being met. Perhaps this is why there

are so few interventions designed specifically for this client group. The research that is beginning to emerge is promising, but studies should now focus on addressing the limitations of the existing research and try to drive forward the research in both adolescent and adult forensic DD.

Although initially contentious, few would now argue against, or fail to support the need for specialist services for offenders with DD (Leonard, Shanahan & Hillery, 2005) which take into account their cognitive profiles when designing interventions. Despite great developments in the area to date, much work continues to be needed, both in terms of methodological design, as well as identifying what the specific offence related factors/needs of this population are in the first place. For instance do risk factors for offending differ for individuals with DD, and are the risk assessments which are currently being used appropriate for adolescents with DD? The following chapter will present a piece of research investigating the utility of an existing risk assessment tool, the Structured Assessment of Violence Risk in Youth (SAVRY) with a sample of adolescents with and without DD. The research will also investigate if there are any additional factors which are more predictive of risk for individuals with DD, as highlighted in Chapter 1. For instance research is required to establish whether age, gender, diagnosis and level of IQ are predictive of violence, as these remain areas of contention. Thus the predictive validity of the SAVRY will be investigated both in a sample in which the tool is designed for (non DD adolescents) and in a sample for which it was not originally intended (adolescents with DD).

CHAPTER THREE

MEASURING AND PREDICTING INSTITUTIONAL VIOLENCE IN ADOLESCENTS WITH AND WITHOUT DEVELOPMENTAL DISABILITIES IN A FORENSIC INPATIENT SERVICE

Abstract

Aims: To investigate the utility of the Structured Assessment of Violence Risk in Youth (SAVRY), in measuring and predicting violence risk in adolescents with and without DD in a forensic inpatient service. Specifically, can the SAVRY distinguish between adolescents who go on to be aggressive within the inpatient setting and those who do not in a 12 week period? The research will also investigate if there are any additional factors which are predictive of future violence for individuals with DD. Specifically identifying whether age, gender, diagnosis and level of IQ are predictive of institutional violence.

Method: The results of SAVRY risk assessments and data on incidents of institutional violence (Overt Aggression Scale-Modified for Neuro-Rehabilitation (OAS-MNR) (Alderman, Knight & Morgan, 1997) and behavioural monitoring data) were collated for two samples of individuals with and without DD. Spearman's Rho correlations were conducted to establish if a relationship existed between SAVRY categories of interest (Historical subscale, Social subscale, Individual subscale, SAVRY total, and Summary clinical risk rating), and additional factors (age, gender, IQ and diagnosis), and the outcome measure of violence. ROC analyses were then used to produce AUC's for the SAVRY total score, historical subscale, social subscale, individual subscale and structured clinical judgements of risk, as indexes of accuracy in the prediction of institutional violence in the group of adolescents with DD (non DD adolescents were excluded due to non significant results in the preliminary analyses).

Results: The non DD group did not reveal any significant relationships between the SAVRY categories and violence as measured using Spearman's Rho. Therefore only the data for the group of adolescents with DD which demonstrated correlations ranging from .35 to .58 was used to explore the hypotheses further using ROC analyses. Significant findings suggested that the SAVRY is a strong predictor of risk of institutional violence in this sample of adolescents with DD (AUC's ranged from .76 - .91). The Individual subscale (composed of dynamic risk factors) demonstrated the strongest relationship with future violence, and the Historical subscale (composed of static risk factors) demonstrated the weakest relationship. The SAVRY total (AUC = .86) outperformed the structured clinical risk rating (AUC = .79) in the accurate prediction of violence.

Conclusions: This surprising finding contradicts previous research which suggests specific tools are needed for samples of individuals with DD. Therefore this study provides a promising avenue for research into the use of established adolescent violence risk assessments for individuals with DD. The study also emphasises the importance of dynamic risk factors in the assessment of institutional violence risk in this sample, and highlights the potential use of actuarial methods for predicting institutional violence over structured clinical judgement.

Introduction

The nature of violence risk in adolescence is diverse, and the task of assessing, measuring and predicting it complex. Adolescence is a period marked by an increased likelihood of involvement in antisocial behaviour (Moffitt, 1993). Youth violence is a subset of youth antisocial behaviour that has been of particular concern, within recent years (Catchpole & Gretton, 2003). Indeed, in England and Wales, offenders younger than 18 are suspected of committing on average 18% of assaults and 39% of robberies (Barberet, 2001). Research has established a number of factors that appear key in the identification of those adolescents at heightened risk of committing violent offences or displaying violent behaviour (Borum, 2000), though little has been done to extend research efforts on risk factors in their practical application in terms of risk assessments for adolescent violence (Borum, 2000; Borum, Bartel & Forth, 2003).

Steadman et al. (2000; p.84) explain that, although considerable progress has been achieved in recent years in regards to aggression and violence risk assessment, risk prediction tools remain

“research instruments ignored in daily clinical practice in all but a few forensic institutions”.

However, it should be borne in mind that whilst it is useful to develop systematic processes for assessing risk of violence among adolescents in a variety of contexts (e.g., juvenile justice settings, mental health facilities), it is not necessarily the case that a single approach will be equally effective for all decisional tasks (Borum, 2000). This extends particularly to the prediction of violence risk in adolescents with DD of which research is extremely sparse.

Research on risk assessment for violence and aggression does however continue to be a strong area of development in the general offending population, and a number of reliable risk assessment tools have been developed as a result.

Chapter 1 highlighted that whilst prevalence figures are notoriously difficult to accurately and definitively obtain, it has been suggested that up to 25% of offenders with DD have committed violent offences (Johnston, 2005; McMillan, Hastings & Coldwell, 2004). Indeed, violent behaviour remains a significant cause of social exclusion for people with DD (Hassiotis & Hall, 2004), and risk assessments for violence which are sensitive to the difficulties experienced by this population need to be developed. Work in this area is still in

its infancy, though there are tools in development (e.g. DRAMS: Dynamic Risk Assessment and Management Systems by Lindsay et al., (2004), and the ARMIDILLO: Assessment, Risk Management of Intellectual, Developmental or Learning Disabled Offenders by Boer, McVilly and Lambrick (2007)).

Limitations of Current Risk Assessment Tools

The few risk assessment tools that have been developed in the past for adolescents tend to emphasise long term risk as opposed to short term (acute) violence. Recent research also suggests that dynamic clinical variables contribute appreciably to assessments of acute and short term violence risk (Nicholls et al., 2006). Dynamic risk factors, are described as things that change over time, and are also known as criminogenic needs (Andrews & Bonta, 1994). Serper et al. (2005), claim that stable/static risk predictors e.g. psychopathy, substance abuse, medication compliance may actually have less relevance in inpatient settings than they do in community follow-up studies. Thus emphasising importance of including dynamic variables in risk assessment tools aimed at identifying aggression in inpatient settings. However, to date, there has been relatively little published on how best to measure and incorporate these changeable factors into the risk assessment process (Mills, 2005).

Some recently developed instruments have utilised existing research in addition to suggested best practice to assess strength as well as risk, and dynamic factors. Two such risk assessment instruments are the Structured Assessment of Violence Risk in Youth (SAVRY; Borum, Bartel, & Forth, 2003) and the Short Term Assessment of Risk and Treatability (START; Webster, Martin, Brink, Nicholls & Middleton, 2004). The SAVRY assesses 24 key risk factors in three domains: historical, clinical, and contextual, and the START assesses risks on 22 dynamic items.

A recent (2007) MSc study by the authors of the current research (Adamson, Dixon and McLean, unpublished) compared the predictive validity of these two structured violence risk assessments for two comparison groups (adolescent forensic inpatients with DD and non-DD forensic psychiatric inpatients). To date no other study has assessed the use of the START or SAVRY in a DD adolescent sample.

In the MSc study, the START outperformed the SAVRY in terms of accurate predictions of inpatient violence in both samples (violence was conceptualised as any observed incident of physical aggression that resulted in harm to the victim or had the potential to result in harm to

the victim). The total score on the START was a stronger predictor of violence than the total score on the SAVRY, but a weaker predictor of violence than the optimum model on the START (composed of the conduct, external triggers, and the emotional risk factors). Strong predictors of future violence in the non-DD sample were the SAVRY total, Structured clinical risk rating, and optimum model; and the START total, Structured clinical risk, and optimum model rating, yielding moderate to large effect sizes. In the sample of adolescents with DD the START recreational risk factor and the START total were the only significant predictors of future violence. Neither of the risk assessment tools used in the MSc study were specifically designed for a DD population, the SAVRY however was designed for an adolescent population. Interestingly, the START (the adult tool) outperformed the SAVRY (the adolescent tool) in both the DD and non DD populations. Potential differences in the applicability of risk assessments were highlighted in each sample, thus giving justification for further investigation in to the SAVRY's ability to accurately predict violence in adolescents with DD.

Specifically, the findings of Adamson, Dixon and McLean's study would recommend against the use of the SAVRY for predicting violence in the sample of adolescents with DD as no significant findings were found for the SAVRY's ability to predict violence in this sample. However the author's MSc study only looked at acute violence using a two week time frame. The SAVRY is different to the START in that it is a risk assessment most suited to predicting risk in the long term. Therefore although an advantage of the MSc study was that it was a prospective study, follow up studies would be needed to extend the length of time after completion of the SAVRY risk assessment to investigate whether this had an impact on the tools ability to predict violence. A number of recent studies investigating the SAVRY's ability to predict future violence in non DD samples have used follow up time frames of 12 months post completion of the SAVRY (e.g. Dolan & Rennie, 2008; Myers & Schmidt, 2008). However, these studies were both based on community samples. Violence is one of the major reasons for referral to inpatient facilities in the first place (Crichton, 1995; Smith & Humphreys 1997), and according to Hillbrand (2001) and Harris and Barraclough (1997) the probability of violence directed towards others is much higher in individuals with mental health difficulties than in the general population. Given the high levels of institutional violence in this setting it was felt that a smaller time frame would be more appropriate. Thus a time frame of 12 weeks was selected.

The author's MSc study also concluded that further research was needed to develop a risk assessment tool specifically designed for adolescents with learning disabilities that addresses their specific requirements. Thus the current research investigates the findings of the original MSc research, by extending the time period, *and* making attempts to identify if there are any additional factors which are more predictive of risk for individuals with DD, as highlighted in Chapters 1 and 2. For instance research was required to establish whether age, gender, diagnosis and level of IQ are predictive of violence, as these were areas of contention as discussed in the preceding chapters.

The development of structured clinical risk assessment tools for predicting violence of adolescents with DD is sadly lacking, and tools for predicting adolescent violence are only just beginning to emerge, as such, the validation of such tools is a pressing empirical question. Based on the justifications given, the primary purpose of the present study is to determine the long term (12 weeks) predictive validity of the Structured Assessment for Violence Risk in Youth (SAVRY; Bartel, Forth & Borum, 2002) in an inpatient sample of adolescents with DD and a non DD sample. It is suggested that due to the diverse nature of violence risk in adolescence, a number of additional factors may be more pertinent to this population in terms of their ability to accurately predict risk. It was suggested therefore that additional factors also be investigated (i.e. whether certain diagnoses were more predictive of violence, whether gender is predictive, is diagnosis relevant, for instance is the SAVRY valid for predicting risk in an autistic subsample, and is violence recidivism associated with level of IQ?). This would be a valuable contribution to the area in that it would allow for suggestions to be made as to the inclusion of factors for a risk assessment best suited to predicting risk in adolescents with DD in inpatient settings.

Aims and Objectives for Research

The primary purpose of the present study was to investigate whether the Structured Assessment of Violence Risk in Youth (SAVRY; Bartel et al., 2002) can distinguish between adolescents who went on to be aggressive (as measured by the Overt Aggression Scale Modified for Neuro-Rehabilitation (OAS-MNR) (Alderman, Knight & Morgan, 1997) and behavioural monitoring data) and those who did not in a 12 week period in developmentally and non developmentally disabled samples.

Specifically, the following research questions were investigated:

1. Can the SAVRY a) Total; b) clinical risk judgement c) Historical subscale total d) Social subscale total and e) Individual subscale total predict aggressive behaviour in the inpatient sample of adolescents with DD within a 12 week period?
2. Can the SAVRY a) Total; b) clinical risk judgement c) Historical subscale total d) Social subscale total and e) Individual subscale total predict aggressive behaviour in the non-DD inpatient sample of adolescents within a 12 week period?
3. Can the additional factors (age, gender, diagnoses and IQ) predict risk of institutional violence in a sample of adolescents with DD and a sample of adolescents without DD?

Methodology

Ethical Considerations

The researcher acknowledges that the information collected in this study is of a sensitive nature; however this information is gathered routinely and sometimes prior to a patient's admission, therefore all clinicians who collect the data are fully aware of ethical issues. No direct patient contact was involved in the research.

The research proposal was submitted to an NHS Research and Ethics Committee who felt that there was more risk from asking the patients for consent than from the use of routine data by a professional who has access to it in their working capacity. They therefore proposed that individual patient consent was not necessary. In addition, the database was anonymised for research purposes and the data was held in accordance with data protection laws.

Participants

The data used in this study was from a total of 56 adolescents, 36 males and 20 females living in a medium secure psychiatric unit and a medium secure psychiatric unit for adolescents with DD (learning disabilities, and autistic spectrum disorders). The adolescents were aged between 14 and 17 years of age (Mean = 16 years, SD = .988). All adolescents resided within the adolescent service on the same site but in different establishments. There were no restriction criteria on the inclusion of data other than age (as the SAVRY is an adolescent risk assessment). There were 30 adolescents with DD and 26 non DD adolescents.

Procedure

Measures

Demographic Information

Demographic information was collated for each young person involved. This information included age, gender, current diagnosis and IQ score where available, obtained from RIO (the hospital's computerised patient record system) and file information. IQ scores that had already been obtained as measured by the WISC or the WAIS (Wechsler, 2004; Wechsler & Matarazzo, 1972) were used in order to assess whether level of IQ was a factor predictive of violence. Additional measures were not completed for the purpose of the study, only those participants with data already available were used.

Structured Assessment of Violence and Risk in Youth (SAVRY) (Borum, Bartel, & Forth, 2003)

The SAVRY consists of 10 historical, 6 social, 8 clinical and 6 protective factors and is used for adolescents aged between 12 and 18 years to assess violent behaviour. Violence on the SAVRY refers to any interpersonal violence severe enough to cause serious injury, regardless of whether injury actually occurs. It also includes any sexual assaults or threats made with a weapon. Total scores on the SAVRY were obtained for each individual by summing the scores of the Historical Factors subscale, the Individual Factors subscale, and the Social Factors subscale (High = 2, Medium = 1, Low = 0), and a structured clinical judgement (risk rating) was also obtained, this was rated as High (=2), Medium (=1) or Low (=0) risk for each case.

Violent Behaviour: OAS-MNR and Behavioural Monitoring Data

The frequency of observed violent incidents was taken from the OAS-MNR and behavioural monitoring data which routinely collates information on all observable violent behaviour, and threats of violence for the purpose of assessment, audit and evaluating treatment outcome (please refer to Appendix 1 & 2 respectively for copies). As the settings were two inpatient units, violence in this study specifically refers to institutional violence. In the OAS-MNR and behavioural monitoring the name of the patient behaving aggressively, the date and time of the incident, and the unit where the incident occurred is recorded. A folder containing blank record forms is located within the nursing office on each unit. Instruction sheets are found within the folder and all members of the clinical team are trained on induction to use the OAS-MNR and behavioural monitoring data. The difference between the OAS-MNR used in the sample of adolescents with DD and the behavioural monitoring data used in the non DD

sample is that the OAS-MNR requires the staff member to attempt to identify the immediate antecedent to the aggression, and to record the intervention used immediately following the aggression. However the antecedents and interventions were not used in the present study. Following every aggressive incident, staff are required to complete the OAS-MNR and behavioural monitoring data. All recordings are also double checked against electronic file information regarding observations of behaviour on a weekly basis to ensure all incidents of aggression have been recorded on the OAS-MNR or behavioural monitoring (completed by Assistant Psychologists, Trainee Forensic Psychologists and a qualified forensic psychologist).

Treatment of Data

All assessments were updated as per normal clinical practice prior to the date of each patient's CPA (Care Plan Approach) meeting. The decision to use the CPA meeting as the point of assessment for this study was a choice of convenience and ecological validity; as it coincides with the time when the multi-disciplinary team conducts their formal risk assessment reports, and where most team members are familiar with the patient's mental status and degree of progress. The raters were 3 doctorate level clinician's, one master's-level clinician, and 2 psychology graduate students. All raters have clinical experience in psychiatric, and forensic settings.

Inter-rater reliability

The SPSS statistical package was used to calculate all analyses, firstly determining the inter-rater reliability of the data sets prior to collecting any further data. The inter-rater reliability of the Structured Assessment of Violence Risk in Youth (SAVRY) and the outcome data were calculated based on ten paired ratings. This was done using intraclass correlation coefficients (ICC). ICC's were used as they are a measure of agreement rather than of association.

Table 2 summarises the results of the ICC's for the SAVRY subscales, structured clinical risk rating and total scores. The results of the ICC's for the observed incidents of violence can also be found in the table overleaf. These reliability co-efficients are considered acceptable (Field, 2005).

Table 2: Interrater reliability for the SAVRY

	SAVRY			Rating observed incidents of violence
	TOTAL	Structured Clinical Risk Rating	Subscales	
Interrater Reliability (ICC)	.82	.85	0.745-0.792	.945

Statistical Analyses

First descriptive statistics were calculated for the frequency of aggression. Second, preliminary Spearman's Rho correlations were conducted to establish if a relationship existed between SAVRY categories (Historical subscale, Social subscale, Individual subscale, SAVRY total, and Summary clinical risk rating), and violence, as well as additional factors (age, gender, IQ, diagnoses), and violence for each group (DD and non DD). Spearman's Rho are recommended when parametric assumptions are violated (Field, 2005). Then, where significant correlations were found, these were entered into Receiver Operating Characteristics (ROC) analyses in order to identify whether the factors of interest in hypotheses 1, 2 and 3 could predict violence. Thus the same sequence of statistics was run for each hypothesis where significant correlations were found in the preliminary analyses.

Receiver Operating Characteristics (ROC) analyses

ROC's are applied to data that consists of a continuous predictor variable (i.e. the scores on the SAVRY), and a dichotomous dependent measure (i.e. violence versus no violence). Specifically ROC analyses graphically plot the relationship between the true positive rate (TPR) of the predictor (the risk assessments) as a function of specificity (false positive rate (FPR)) and take the form of a relational curve (Douglas & Webster, 1999). The ROC integrates the trade-off between making correct predictions and falsely indicating failure, and by visually examining the areas under the curve (AUC), an easily communicated picture of the efficiency of a violent risk instrument is gained (Kroner, 2005). The AUC can range from 0.0 to 1.0 (indicating perfect accuracy), with an AUC of .5 indicating chance accuracy. Thus in this case, the area under the curve (AUC) is a measure of the diagnostic accuracy of the risk assessments in predicting the probability of violence, and considered a 'gold standard tool' (Mossman, 1994; Douglas & Webster, 1999). The results of the SAVRY for the group of adolescents with DD were analysed against the OAS-MNR and behavioural monitoring data using Receiver Operating Characteristic (ROC) analyses. ROC analyses were therefore used to produce AUC's for the SAVRY total score, historical subscale, social subscale, individual

subscale and structured clinical judgements of risk as indexes of accuracy in the prediction of violence in the group of adolescents with DD.

In a survey of studies on diagnostic accuracy using ROC, only 4.7% of the studies reported that they considered sample size (Bachmann, Puhan, Riet, & Bossuyt, 2006). Cohen (1988) states that between 25-50 participants are needed in each group in order to significantly interpret results of ROC analyses. Therefore the current N=24 for DD and violent and N= 6 for DD and non violent violate this recommendation. Despite this, the sample size required for Cohen’s (1992) recommended power of .8 was checked using G*power (Faul, Erdfelder, Lang & Buchner, 2007) and was adequate. Schulz and Grimes (2005, pp.1353) state that

“so-called underpowered trials might be acceptable if investigators properly report to avoid misinterpretation. Some shift of emphasis from a fixation on sample size to a focus on methodological quality would yield more trials with less bias.”

Thus the limitations of the small sample size are outlined here and extreme caution should be used when interpreting the tentative findings.

Results

Descriptive Statistics

Descriptive statistics and frequency distributions using SPSS were used to illustrate the frequency of aggression in each group (see Figure 1 below).

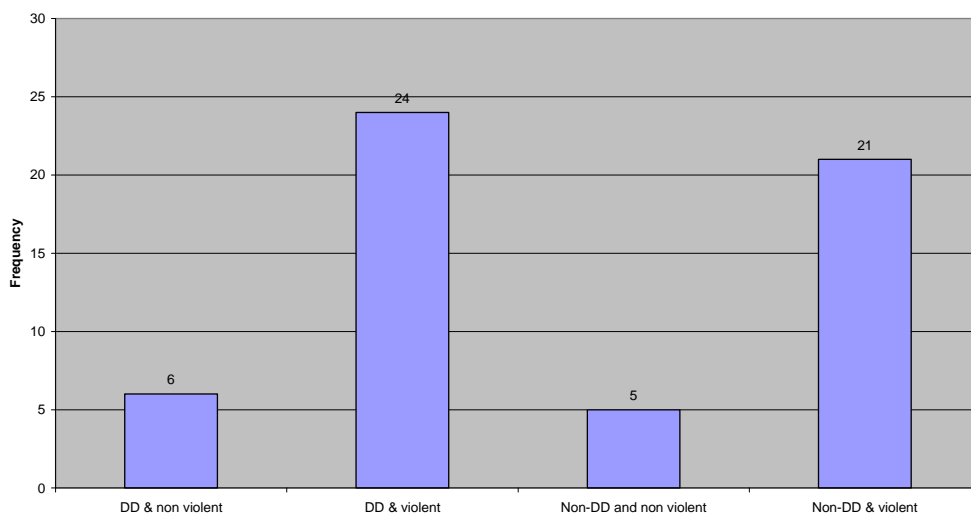


Figure 1: Graph to show the differences between the group of adolescents with DD and the non DD group in the frequency of the outcome measure of violence.

The mean number of aggressive incidents was 13 ($SD = 20$). There were 30 adolescents with DD and 26 adolescents in the non DD sample. In addition, IQ data was available for 26 cases in the group with DD (mean = 60.38, $SD = 8.51$).

There were a variety of diagnoses recorded, including Autistic Spectrum Disorder, Learning Disability, Hyperkinetic Conduct Disorder, Post Traumatic Stress Disorder, Aspergers Syndrome, Attention Deficit Hyperactivity Disorder, Schizoaffective Disorder, Reactive Attachment Disorder, Schizophrenia, Emerging Antisocial Personality Disorder, Psychosis, Frontal Lobe Syndrome, Conduct Disorder, Attachment Disorder, Affective Disorder and Brain Injury. However there were a number of co-morbid diagnoses also.

Spearman's Rho Correlations

The non DD group did not reveal any significant relationships between the SAVRY categories and violence within a 12 week period as measured using Spearman's Rho (see table 3 overleaf). Thus hypothesis 2 was not investigated further. In addition, when the additional factors for hypothesis 3 were investigated using Spearman's Rho analyses (and chi Square for the diagnoses), no significant results were found for either the group with DD or the non DD group. Therefore Hypothesis 3 was also not considered for further investigation. However significant relationships *were* found in the group with DD with correlations ranging from .35 to .58. Data for the group with DD were thus entered into further analyses using ROC in order to investigate hypotheses 1.

Table 3: Table showing 1: The correlations between the SAVRY Historical, Social, Individual Scores, and total scores and violence, and 2: additional factors and violence for the group of adolescents with DD and the non-DD group.

Variable	Developmentally Disabled Group (n = 30)					Non Developmentally Disabled Group (n = 26)				
	Minimum Score	Maximum Score	Mean (SD)	Spearman's Rho	Sig	Minimum score	Maximum Score	Mean (SD)	Spearman's Rho	Sig
<i>1: SAVRY</i>										
<i>Total and Subscale Scores</i>										
Total	18	43	31.43 (7.13)	.50**	.005	8	45	33.31 (5.52)	.25	.22
Historical	5	20	13.6 (4.26)	.35	.055	2	15	14.65 (3.93)	.14	.50
Social	5	12	8 (2.41)	.40*	.027	1	12	8.19 (1.81)	.13	.52
Individual	3	15	9.83 (2.14)	.58**	.001	1	20	10.46 (2.35)	.013	.95
Summary clinical risk rating	0	2	1.62 (.45)	.48**	.009	0	2	1.81 (.40)	.01	.26
<i>2: Additional factors</i>										
Age	-	-	16.07 (1.08)	.16	.409	-	-	16.12 (.95)	-.255	.21
Gender	-	-	-	.04	.827	-	-	-	.136	.51
IQ n=26	51.88	68.89	60.38 (8.51)	-.07	.781	-	-	73.25 (4.03)	-	-
Diagnosis	-	-	-	X ₂ = 18.42	.915	-	-	-	-	-

*correlation is significant at the 0.05 level **correlation is significant at the 0.01 level

Receiver Operating Characteristic (ROC) Analyses

The results of the Spearman's Rho Correlations and the AUC's, standard errors, and 95% confidence intervals produced from the ROC analyses are discussed in turn in relation to hypothesis 1, and are presented in Table 4 on page 53. In addition, a visual representation can be seen in figure 2 on page 54. In general, AUC values of .70 and above are considered moderate and those above .75 are considered strong (Mossman, 2006).

Hypothesis 1:

Can the SAVRY a) Total; b) clinical risk judgement c) Historical subscale total d) Social subscale total and e) Individual subscale total predict aggressive behaviour in the sample of adolescents with DD within a 12 week period?

1. a. The ability of the SAVRY total score (turning the tool into an actuarial tool) to predict aggressive behaviour in the sample of adolescents with DD within a 12 week period.

The SAVRY total score demonstrated a significant relationship with observed incidents of violence (.50, $p=.005$). When entered into the ROC analysis, the AUC for violence and total score on the SAVRY was 0.86, demonstrating that the SAVRY total score is a strong predictor of the probability of violence. An S-shaped curve can be seen for the total score AUC in figure 2 which will be considered in the discussion section.

1. b. The ability of the SAVRY clinical risk judgement to predict aggressive behaviour in the sample of adolescents with DD within a 12 week period.

The SAVRY clinical risk judgement rating demonstrated a significant relationship with violent recidivism (.48, $p=0.09$). When entered into the ROC analysis, the AUC for violence and the summary clinical risk rating was 0.79. Whilst this demonstrates that the SAVRY clinical risk rating is a strong predictor of the probability of violence, the total score (research question 1a) which happens to turn the tool into an actuarial tool proved to be a stronger predictor of violence than the structured clinical risk judgement.

1. c. The ability of the SAVRY Historical subscale total to predict aggressive behaviour in the sample of adolescents with DD within a 12 week period.

The SAVRY Historical subscale did not demonstrate a significant relationship with violent recidivism (.35, $p=.055$) however the Historical subscale was entered into the series of ROC analyses for the sake of completeness. The AUC for violence and the historical subscale was 0.76 (though the historical subscale bore no significant relationship to violence in the Spearman's Rho analyses, the AUC can be seen as above chance $p>0.5$ in the ROC analysis). Again an S-shaped curve is observed in figure 2, on the historical scale the curve dips below the 0.5 chance line. This will be considered further in the discussion of the results.

1. d. The ability of the SAVRY Social subscale total to predict aggressive behaviour in the sample of adolescents with DD within a 12 week period.

The SAVRY Social subscale demonstrated a significant relationship with violent recidivism (.40, $p = .027$). The AUC for violence and the social subscale was 0.80 which is also a strong relationship.

1. e. The ability of the SAVRY Individual subscale total to predict aggressive behaviour in the sample of adolescents with DD within a 12 week period.

The SAVRY Individual subscale demonstrated the strongest significant relationship with violent recidivism (.58, $p > .001$). When entered into the ROC analysis, the AUC for violence and the individual subscale was the strongest relationship at 0.91. Demonstrating that the SAVRY Individual subscale is the most accurate predictor of the probability of violence within a 12 week period in this sample.

With respect to this forensic psychiatric sample of adolescents with DD, the range of AUC's observed indicate strong relationships and these relationships perform at above chance levels.

Table 4: Areas under the curve (AUC's) of Receiver Operating Characteristic Analyses for the SAVRY in the developmentally disabled group.

SAVRY	Developmentally Disabled Group (n = 30)			
	AUC	S.E.	95% CI	Sig.
Total	0.86	0.10	0.66-1.06	.007**
Historical	0.76	.14	0.49-1.04	.049*
Social	0.80	.09	0.62-0.98	.025*
Individual	.91	.06	0.80-1.02	.002**
Summary rating of risk	.79	.11	0.58-0.99	.033*

* significant at the 0.05 level ** significant at the 0.01 level

Note: In table 4 the some of the confidence intervals (CI) exceed 1.0. The reader should be aware that statistically it is impossible to get an AUC > 1, however the AUC CI is an asymptotic estimate and is therefore automatically calculated as exceeding 1. It is a statistical artefact.

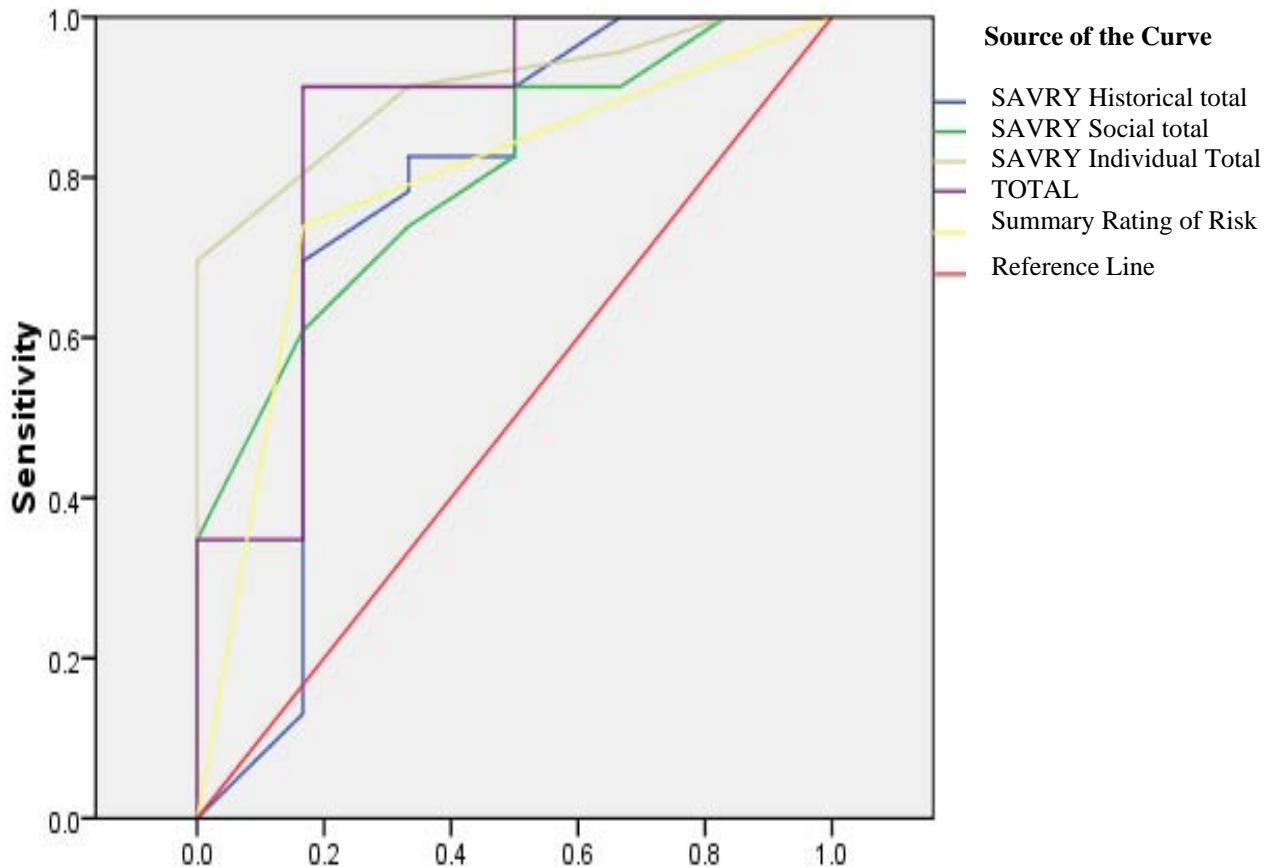


Figure 2: Graph to show AUC's produced from ROC analyses for the SAVRY in the group of adolescents with DD

Discussion

The aim of the study was to investigate the utility of the Structured Assessment of Violence Risk in Youth (SAVRY), in measuring and predicting violence risk in adolescents with and without DD in a forensic inpatient service. Specifically, can the SAVRY distinguish between adolescents who go on to be aggressive and those who do not in a 12 week period. The research also aimed to investigate if there were any additional factors (age, gender, diagnoses, IQ) which were more predictive of risk for individuals with DD. Specifically identifying whether age, gender, diagnosis and level of IQ were predictive of violence.

Discussion of Preliminary Analyses

The non DD group did not reveal any significant relationships between the SAVRY categories and violence within a 12 week period as measured using Spearman's Rho. Thus hypothesis 2 was not investigated further. This is unfortunate but is likely to be a result of the homogeneity of the sample (the majority were identified as high risk based on them meeting the criteria on a high number of risk factors) which could have potentially attenuated the

significance of the findings in this group. It is also possible that extraneous variables influenced the findings. For instance, staff are highly trained in de-escalating potentially violent situations, and as such if the individuals were unsupervised in the community, the number of violent incidents may have been higher.

In addition, when the additional factors (age, gender, diagnoses, IQ) for hypothesis 3 were investigated using Spearman's Rho analyses (and Chi Square for diagnoses), no significant results were found for either the group of adolescents with DD or the non DD group. Therefore Hypothesis 3 was also not considered for further investigation. Thus there was no significant relationships between IQ and violent outcome, gender and violent outcome, diagnoses and violent outcome, and age and violent outcome. This may be due to the limited sample size, as it is worth noting that Viljoen et al. (2008) found that the SAVRY performed better with older adolescents (over 15) than with younger ones (15 and younger) in a sample of 169 males which is significantly larger than the sample used in this study.

Discussion of Significant Findings

Preliminary analyses found significant relationships for the group of adolescents with DD with correlations ranging from .35 to .58. Data for the group of adolescents with DD were thus entered into further analyses using Receiver Operating Characteristics in order to investigate hypothesis 1. Mossman (1994) calculated ROC AUC's for 58 violence prediction data sets and reported average AUC's ranging from .60 to .89, with a median AUC of .73, and a weighted average of .78. The range of significant SAVRY AUC's in the present study is comparative to Mossman's (from .76 to .91, mean = .82). The range of significant AUC's in the author's previous study were generally lower (from .70 to .76, mean = .74) (Adamson, Dixon & McLean, unpublished). This demonstrates that the ability of the SAVRY to predict violent outcome is improved if it is used over a longer period of time namely 12 weeks as opposed to the original time frame of 2 weeks (in the original study conducted by the author). The SAVRY AUC's of the present study are similar to the AUC's of the START assessment in the previous study (from .73 to .91, mean = .81).

Even in the group of adolescents with DD, where significant findings were found (hypothesis 1), none of the various risk ratings on the SAVRY were perfect in their predictions (though some were very close), with errors occurring both in over-prediction, and under-prediction. Under-predicting violence (failing to determine that a person will be violent) is a grave error, as it results in violent individuals being overlooked and then going on to harm others. The

ramifications of over-predicting violence however can be just as disconcerting. For instance over-prediction that is used to justify retributive justice (such as increased incarceration time or stricter probation conditions) outside of the context of public safety and youth rehabilitation is an error that interferes with the right to freedom (Catchpole & Gretton, 2003), this is particularly pertinent when considering the sample are adolescents and periods spent incarcerated could be damaging to their psycho-social development.

With greater knowledge regarding violence risk assessments comes greater responsibility to use them more effectively and judiciously (Grisso & Tomkins, 1996). As Borum (2000) suggested, it is not necessarily the case that a single approach will be equally effective for all decisional tasks. The results of the current and previous studies may suggest a best practice method for evaluating and effectively predicting risk of violence in adolescents with DD by utilising short term assessments such as the START to assess acute risk of violence, and that longer term assessments such as the SAVRY are only used thereafter.

Previous research has suggested that dynamic clinical variables contribute appreciably to assessments of acute and short term violence risk (Nicholls et al., 2006). Serper et al. (2005), claim that stable/static risk predictors may actually have less relevance in inpatient settings. Thus suggesting the importance of inclusion of dynamic variables in risk assessment tools aimed at identifying aggression in inpatient settings. This held true in the present study in which the least predictive subscale was the Historical subscale composed completely of static factors. The AUC for violence and the individual subscale, which on the other hand is composed entirely of dynamic risk factors, had the strongest relationship to violence out of all the categories with an AUC of 0.91. This is the opposite finding of that of Dolan and Rennie (2008) in their sample of male adolescents assessed in custody and followed up 12 months post release.

By the nature of the way the scores were produced (i.e. total scores calculated from the sum of the subscales), the total scores on the structured professional judgement risk assessment tools were essentially converted into actuarial measurements. The structured clinical risk ratings on both tools remained exactly as they were originally designed, a structured clinical opinion of each individual's future risk of violence, rated high, medium and low. It would be understandable to assume that the structured clinical risk ratings on both tools which remained exactly as they were originally designed (a structured clinical opinion of each individual's future risk of violence), would be the strongest predictors of violence in tools

which were never intended to produce total scores (Webster et al., 2004). However, the results indicate that this was not the case, as the SAVRY total (AUC = .86) outperformed the structured clinical risk rating (AUC = .79) in the accurate prediction of violence. This finding confers with the previous study which also found that the SAVRY total (AUC = .77) outperformed the clinical risk rating, whilst also supports research findings by Doyle, Dolan and McGovern (2002). This suggests that numerical scoring of systematic clinical information can significantly predict inpatient violent behaviour in forensic patients.

When considering the S-shaped curves produced for the historical and total score ROC curve's in figure 2 in the results section, intuitively, it would be sensible to suggest that an S-shaped curve may occur because of the range of values, in this case the total score/historical score predicting the risk of violence. It may be that there is a range of values for which the risk is low, another range of values for which the risk is moderate, and another range might exist for which the risk is maximal. When eyeballing the data for the total score and the outcome measure of violence it is clear that those receiving 'low' total scores were predominantly the individuals who did not go on to be violent (between the lowest score of 16 and the score of 25), five people did not go on to be violent, and 2 people did go on to be violent. There is also a subset of individuals 'in the middle' (between the scores of 26 and 36) all of which went on to be violent with the exception of one person. Finally the group of individuals towards the top end, who received 'high' total scores (between the scores of 37 and 44) all went on to be violent. It is tentatively suggested that the total score is potentially able to differentiate between low, medium and high risk individuals. However it should be borne in mind that due to the small sample size, this suggestion is very tentative.

The structured clinical judgement was not the most accurate means of predicting violence. This finding contradicts previous research which has indicated that risk ratings based on guided/structured clinical risk ratings perform as well or better than some actuarial predictions (Kropp, Hart, Webster, & Eaves, 1999; Hanson, 1998), and lends support to the argument proposed by those researchers who advocate that actuarial methods are the preferred method for making decisions about likelihood of future violence (Grove & Meehl, 1996; Quinsey, Harris, Rice & Cormier, 1998). Interestingly though, McEachran (2001) found that subsequent to 18 years of age, the SAVRY structured clinical ratings of risk were superior to PCL:YV (Forth, Kosson & Hare, 2003) and SAVRY actuarial scores with respect to the prediction of violent recidivism in adolescent offenders (though the SAVRY was not originally designed for over 18's). The current study did not include individuals over the age

of 18, it may be that the SAVRY structured clinical risk rating is more accurate on the post 18 age group. Structured clinical risk ratings may be less predictive of violence, because they are more sensitive to clinicians' perceptions of each individual, as well as other factors. This may explain why over a longer period of time the structured clinical risk ratings became more accurate at predicting risk of violence.

Due to the absence of risk assessments for violence in adolescents in general but also in adolescents with DD, adult assessment tools are often used, and items within these are often omitted or modified to meet the requirements of the target sample. Ethically such *ad hoc* modification of adult risk assessment instruments has been suggested to be suspect and questionable (McEachran, 1995). In the present study the SAVRY tool used was not specifically designed for a sample of adolescents with DD (the SAVRY was however designed for an adolescent population). The findings support the use of non adapted risk assessments for predicting risk of violence in adolescents with DD. Thus giving justification for further investigation of the utility of non adapted tools in samples of individuals with DD.

Meyers and Schmidt (2008) published results of their study of the SAVRY's predictive validity among 121 juvenile offenders at 1-year and 3-year follow-up periods (AUC's ranged from .66 - .80). They suggest that the SAVRY's strong predictive validity was "robust in prediction of violent recidivism across gender and ethnicity," (p. 354) a finding that contributes to knowledge of its usefulness for both males and females. The present study, though small in sample size, found no significant relationship between gender and violent outcome.

However it is clear that more research is needed to identify further the specific risk factors involved in the prediction of risk in adolescents with DD. It may be that with more knowledge regarding specific risk factors applicable to adolescents with DD, the risk assessment tools can be made even more accurate with regard to their ability to predict future violence. A major limitation of the present study is that it failed to investigate the utility of the protective factors on the SAVRY. A recent study conducted by Dolan and Rennie (2008) demonstrated that the protective subscale was actually predictive of non offending, this is an interesting finding, worthy of further research.

The current study suggests that extending the length of the follow up period post completion of the risk assessment has an impact on the tool's ability to predict violence. Mossman

(1994) argued that short term predictions (1-7 days) were no less accurate than long term predictions (1 year) in correctly predicting violence. The findings of the present study and the preliminary study conducted by the author previously would suggest otherwise and would caution against the use of the SAVRY as a predictor of acute violence risk in adolescents with DD. However, in general, there is a lack of available violent outcome data in the youth risk assessment literature, particularly long-term outcome data. This lack of data limits our understanding of risk assessments, including reliability, predictive ability, and generalisability across settings and youth populations (Catchpole & Gretton, 2003). Therefore, although the current study provides some early data, more outcome data is needed, and from a larger sample of adolescents.

Finally, the patients involved were all undergoing various treatment programmes, sometimes specifically aimed at reducing their violence, be it through group programmes or individual treatment. This could have impacted upon the outcome data, therefore future research could investigate the predictive validity of the SAVRY in a comparison group in which the participants were not receiving treatment, although this might be a difficult sample to source, as by the nature of the interactions that patients have with staff this can be deemed therapeutic in itself. RCT's are in practice difficult to ethically justify in this context, as to withhold treatment and thus detain an adolescent for longer than necessary is unethical. In the absence of RCT's, research has focused on alternative methodologies in this client group, including case study designs which are beginning to emerge (Clare & Murphy, 1998). Chapter 5 presents a case study which includes the SAVRY risk assessment as part of a battery of assessments in the assessment and treatment planning of a 16 year old evidencing a violent index offence and DD.

Soothill, Rogers and Dolan (2008, p.262), state that "to date there is limited UK psychometric data on the SAVRY". However Dolan and Rennie, (2008) have demonstrated that the SAVRY total risk score and summary risk rating showed moderate predictive accuracy in a UK cohort of adolescent offenders with conduct disorder. To the author's knowledge the current study is the first UK study which addresses the use of the SAVRY in a sample of individuals with DD. Risk assessment is an area of research that has grown rapidly over the past few decades, although this area needs to continue to grow and improve, especially in the prediction of violence in adolescents with and without DD. Attention also needs to be paid to the broader context, including risk communication. Interest is growing in risk communication and Mills (2005) suggests that whereas simple predictions predispose decision makers toward

a dichotomous release/ not release decision, *risk communication* focuses on how the likelihood estimate is communicated and perceived by the decision maker, and risk management turns the focus more toward answering the question, “Given the risk, under what circumstances can we release this person?” (Mills, 2005, p.238).

Conclusions

The results of the present study, in conjunction with previous research into risk assessments for adolescent offenders, suggests that we now possess the potential to predict violent recidivism in adolescents with DD with reasonable predictive accuracy. McEachran (2001, p.101) states that

“once empirical research and clinical practice consistently demonstrate that mental health professionals are able to accurately identify adolescent offenders at high risk for future violent behaviour, whether it be by way of actuarial method or structured professional judgement, we are in a better position to develop appropriate and effective (assessment), management and intervention strategies and techniques.”

It is suggested that future research be devoted to the refinement of existing measures for use with adolescents with DD as opposed to the development of new measures. Investigating whether established psychometric tools are also applicable and valid in this population is a worthy area of future research. Chapter 2 demonstrated that a number of studies were appropriately using the QACSO (self report measure of attitudes consistent with *sexual* offending for adults with DD) (Broxholme & Lindsay, 2003). The critique of a psychometric measure (The How I think Questionnaire: HIT) (Barriga, Gibbs, Potter & Liao, 2001) for the assessment of attitudes consistent with *violent* offending would provide the preliminary basis upon which future research could be conducted into the applicability of this measure for adolescents with DD.

The following chapters of this thesis will thus further investigate the applicability of existing measures by presenting a critique of the How I Think Questionnaire, and Chapter 5 will draw together the recommendations made in this thesis by presenting a case study of the assessment (including the HIT and the SAVRY), management and intervention strategies and techniques used with a 16 year old evidencing a violent index offence (threatening a police officer with a knife) and a DD (Autistic Spectrum Disorder).

CHAPTER FOUR

A CRITIQUE OF A PSYCHOMETRIC MEASURE: THE HOW I THINK (HIT) QUESTIONNAIRE (BARRIGA, GIBBS, POTTER & LIAU, 2001)

Chapter Overview

The How I Think Questionnaire (HIT) (Barriga, Gibbs, Potter & Liao, 2001), a 54 item self-report measure which aims to measure cognitive distortions in adolescents, is critiqued. Cognitive distortions have received attention in a wide array of areas within forensic psychology, and this chapter aims to present the strengths and weaknesses of the measure and then consider its applicability for use in a case study of an adolescent with DD who has committed a violent crime, presented in the following chapter. The findings of the critique suggest that the HIT has undergone fairly stringent psychometric testing. Despite this, there are still quite major test construction considerations that need to be repeated and reported. Specifically, research is needed to further investigate the reliability of the HIT, and further validation of the HIT is warranted on a larger sample and with a UK sample in addition to clarification regarding its use with adolescents with DD. It is perhaps for this reason that the HIT is not yet widely cited. However, due to high levels of validity established in studies to date, ease of use, inclusion of validity scales, and a lack of alternative measures, it may become more popular in the future.

Introduction

In recent years, the growing literature on crime and deviant behaviour has generated a large body of knowledge. Despite these efforts, it has been suggested that our understanding of the processes underlying engagement in and desistance from crime remains limited (Kazemian, 2007). Cognitive distortions (inaccurate ways of attending to, or applying meaning to experience) have been proposed as potential processes which mediate engagement in criminal and aggressive behaviour (Barriga, Landau, Stinson, Liao & Gibbs, 2000), and evidence for a functional link between cognitive distortions and behavioural and emotional concomitants are widely accepted by most theories (Barriga et al., 2000).

Cognitive distortions have received attention in a wide array of areas within forensic psychology, and have been studied from numerous theoretical vantage points (Barriga, Gibbs, Potter & Liao, 2001). Cognitive distortions may be criminogenic insofar as they help to protect the self from blame or negative self-concept and thereby disinhibit aggression or other antisocial behaviour (Barriga et al., 2000). Gibbs (1991) suggested that distortions reduce stress which stems from harming others. These stresses include empathic distress (and possibly empathy-based guilt), and cognitive dissonance between harmful actions and a self-definition as a person who does not unjustifiably harm others.

Barriga et al. (2001) noted that despite a vast array of measures assessing self-serving cognitive distortions in adults, these tended to be either overly inclusive or conversely too narrowly defined, and no previous measure of this kind included a measure of anomalous responding. In addition, there is a scarcity of methods for establishing cognitive distortions in children and adolescents (Barriga et al., 2000), and Bandura, Barbaranelli, Caprara and Pastorelli (1996) highlight that the paucity of adequate measures of self-serving cognitive distortion has significantly hampered research in this area.

Barriga et al., (2000) found that cognitive distortions constituted an important factor in youth psychopathology in a study which investigated differences between an incarcerated sample of youths and high school students. Specifically they found that self-serving and self-debasing distortions accounted for 29% of the variance in total problem behaviour on a range of measures. Self-debasing cognitive distortions are those associated with depression, whereas self-serving cognitive distortions have been associated with antisocial behaviour (Barriga et al., 2000). The role of self-debasing cognitive distortions in the development of anxiety,

depression and other behaviours related to inhibition and withdrawal has been widely recognised by researchers and clinicians for decades (e.g., Beck, 1976).

Gibbs and Potter (Gibbs, 1993; Gibbs, Potter & Goldstein, 1995) have discussed self serving cognitive distortions in eclectic theoretical terms and have coded them in terms of four categories to produce a typology (See Table 5 on page 65). The Gibbs and Potter cognitive distortion typology provided the conceptual framework for development of the How I Think (HIT) questionnaire (Barriga, Gibbs, Potter & Liao, 2001). This critique will evaluate this questionnaire's construction, validity and reliability. In addition, consideration will be given to alternative measures and conclusions will be drawn regarding the utility of the measure in assessing the attitudes and behaviours suggestive of a propensity towards violence in adolescence, with consideration given to its applicability in assessing attitudes consistent with violence in adolescents with DD.

Overview

The HIT is a 54 item self-report questionnaire developed by Barriga, Gibbs, Potter and Liao (2001). It aims to measure cognitive distortions in adolescents. A copy of the HIT cannot be included due to copyright restrictions however it contains clear instructions for the young person to follow and requires individuals to mark the 54 items which assess the level of self-serving cognitive distortions held by youth, on a 6 point likert scale between 1 ('disagree strongly'), and 6 ('agree strongly') in reference to statements such as 'Rules are mostly meant for *other* people', and 'If I really want to do something, I don't care if it's legal or not'. The item scores are summated using a computation form and yield scores for each subscale (including an anomalous responding scale) and an overall score. Scores are plotted on a profile form which provides a readily interpretable graphic representation of the youth's scores, and corresponding percentiles. Dashed lines on the profile form usefully demarcate non-clinical, borderline clinical and clinical ranges (based on a normative sample) as a starting reference point. The HIT is reported to be used widely in the assessment of aggression, conduct problems, anti-social behaviour and defiance. Its application can also be found in the assessment of gender differences in antisocial behaviour (Barriga, Morrison, Liao & Gibbs, 2001), and the assessment of self debasing cognitive distortions and their association with internalising behaviour problems (Barriga, Landau, Stinson, Liao & Gibbs, 2000).

There is a comprehensive review of the theoretical background to the scales at the beginning of the HIT manual, and readers are referred to research studies that are suggested to support the scales of the HIT. The concepts included within the HIT are well researched in the cognitive distortion literature and therefore their inclusion appears sensible. It is clear to see how the scales and items were derived from Gibbs and Potter's (1991) typology, and how the decisions were made as to which items constituted which scales. However it is not clear what the purpose and scope of the behavioural referent scales are, and this will be discussed further.

Item Content and Scales

The HIT consists of four categories of self-serving cognitive distortions (thinking errors). Within the 'cognitive distortion scale' there are Self-Centred, Blaming Others, Minimizing/Mislabelling, and Assuming the Worst subscales, derived from Gibbs and Potter's four category typology of self-serving cognitive distortions (Gibbs, 1991, 1993; Potter & Goldstein, 1995) (see Table 5 below). The manual suggests that in order to provide broad and meaningful content for the cognitive distortions, the items are also applied to four behavioural referent scales: Opposition-Defiance, Physical Aggression, Lying and Stealing derived from the Conduct Disorder and Oppositional Defiant Disorder syndromes listed in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994). The manual explains that all of the HIT items which load onto a cognitive distortion category also load onto a behavioural referent. The manual gives an example of the item "People force you to lie if they ask you too many questions", which it states represents a Blaming Others cognitive distortion, and a Lying behavioural referent. However the addition of behavioural referents may be a limitation of the HIT, as it presents a more confusing picture as opposed to adding to the clarity and meaningfulness of the scale. Specifically, although the behavioural referent titles are fairly self explanatory, the manual does not define them, thus adding further to the sense of confusion about what the behavioural referents are and how they can be applied in practice. The manual refers the reader to the DSM-IV in order to obtain definitions, though this still does not give clarification on their practical applicability using the HIT scale. Please see Table 5 overleaf for the definitions provided in the manual.

Table 5: Definitions of the HIT categories and subscales where available

Scale		Definition
Cognitive Distortion Scales		Assesses the extent to which the individual accord's their status to their own views, expectations, needs, rights, immediate feelings, and desires to such a degree that the legitimate views etc., of others (or even one's own long-term interests) are scarcely considered or are disregarded altogether.
Self Centred (SC)		
Blaming Others (BO)	Assesses the extent to which the individual misattributes blame to outside sources, especially another person, a group, or a momentary aberration (one was drunk, high) or misattributes blame for one's victimisation or other misfortune to innocent others.	
Minimizing/Mislabelling (M)	Assesses the extent to which the individual depicts antisocial behaviour as causing no real harm or as being acceptable or even admirable, or referring to others with a belittling or dehumanising label.	
Assuming the Worst (AW)	The extent to which the individual gratuitously attributes hostile intentions to others, considering a worst case scenario for a social situation as if it were inevitable, or assuming that improvement is impossible in one's own or others behaviour.	
Behavioural Referent Scales		
Oppositional-Defiant	DSM-IV criteria	(Overt Scale)
Physical Aggression	DSM-IV criteria	(Overt Scale)
Lying	DSM-IV criteria	(Covert Scale)
Stealing	DSM-IV criteria	(Covert Scale)
Validity Scales		
Anomalous Responding (AR)	Screens for disingenuous, incompetent, or otherwise suspect responding	

Gibbs & Potters typology

(Information taken from the HIT manual, Barriga, Gibbs, Potter & Lau, 2001)

The HIT consists of 54 items in total (comprising of 39 Cognitive Distortion (CD) items, 8 Anomalous Responding (AR) items, and 7 Positive Filler (PF) items). The justification given for the addition of PF items (pro-social statements) is that it enhances variation in item content, thus encouraging sustained attention to the measure, as well as counterbalancing the negative content of the cognitive distortion items. A useful addition to any self report scale are validity scales. The validity scale on the HIT was incorporated in order to screen for disingenuous, incompetent, or otherwise suspect responding and will be discussed further later in this critique.

The decisions made regarding the inclusion of items and scales were developed and tested using a number of reliability and validity analyses, amongst other tests such as readability analyses with clearly stated references to the software used (Grammatik by Wampler, 1988). Indeed, the HIT questionnaire has been modified and improved upon greatly during the course of its development. Psychometric criteria used to guide the development of the items

are well laid out in the manual, and include a) the ability to differentiate criterion groups, b) correlations with self-report measures of anti-social behaviour, c) higher correlations with items' intended subscales than with other subscales d) lack of confoundance with anomalous responding and e) floor or ceiling effects. Based on these criteria, and the outcome of them in a development sample (Barriga & Gibbs, 1996), various items were discarded, and using the psychometrically successful items as models, new items were added. A further five samples from the United States were investigated, with the psychometric findings gathered using the same criteria. From these, further items were added and discarded (the process clearly outlined in the HIT manual), until the final HIT questionnaire was generated. Thus the development of the item content and scales for the HIT appear thorough, and well conducted and will be discussed later in this critique. However, given such rigorous testing it is surprising that such limited information is given regarding the behavioural referents which clearly showed good psychometric properties justifying their inclusion in the scale.

The final HIT questionnaire generated from the refinement samples was then evaluated using four further samples. It is important to highlight that descriptions of the refinement samples used to generate the final HIT questionnaire, and the further four validation samples are given in the manual (including age with means and SD's reported, gender, and race), and that included within these are 'normal/functional' samples and 'dysfunctional' samples for instance, psychiatrically hospitalised patients with primary diagnoses of disruptive behaviour disorders. No specific mention is made to the use of the HIT with adolescents with DD as is often the case with most psychometrics. However no references are provided for these studies and therefore it is unclear both who the authors were, and, if the studies were published. Thus, the information cannot be verified without contacting the author directly. However, the authors do provide references for a number of other published studies that have replicated their findings. The results of the further validation and reliability analyses including those of the independent studies on the HIT are now discussed.

Validity of the HIT

According to Klein (1986), a psychological test may be justly described as a good test if it has certain characteristics including, at least an interval scale, good validity and reliability, it must be discriminating, and finally, it should possess appropriate norms.

Content & Face Validity

In order to ensure adequate content validity, the cognitive distortion items in the HIT manual were written to represent all four of the cognitive distortion categories (SC, BO, M, and AW) as applied to all four behavioural referent categories (opposition-Defiance, Physical Aggression, Lying and Stealing). The items also appear to have face validity as assessed by 10 judges (graduate students in psychology), and therefore measure what they aim to be measuring (Klein, 1986). Only one item was not accurately classified, however this item held good psychometric properties and was therefore retained, which is an acceptable decision.

In addition, the HIT questionnaire contains a validity scale, the anomalous responding (AR) scale. As mentioned earlier, the rationale for the inclusion of the AR scale within the measure, is straightforward; to screen for disingenuous, incompetent, or otherwise suspect responding. The inclusion of this scale therefore improves the validity of the HIT in that it can highlight responding which may result from extraneous motives such as socially desirable responding, impression management, carelessness, or cognitive or language difficulties. Klein (1986) argues that socially desirable responding can have a significant effect on the validity of any measure. The inclusion of the AR scale thus signifies a good attempt by the authors to control for individuals aiming to manipulate their scores in either direction (over-reporting or under-reporting), and the AR scale was subjected to the same reliability and validity analyses as the other scales within the measure.

Factor Analytic Validity

The structure of the final HIT was assessed through confirmatory factor analyses (CFA). CFA is a method which relies on large sample sizes in order to produce statistically strong results (Klein, 1986). However, all four of the validation samples were fairly small in size ($N < 135$). Therefore the authors combined all of the validation samples to produce a larger sample ($N = 518$), this however has obvious limitations, one of which is that it reduces homogeneity. It is unclear whether basic analyses were conducted in light of this, to ascertain that the data met the requirements for the later analyses performed. However, the results of the CFA's were supportive of a division by cognitive distortion category ($X^2 = 40.40$, $p < .001$), and by behavioural referent category ($X^2 = 303.03$, $p < .001$). All factor loadings were significant at $p < .001$.

Another potential limitation of the HIT is that the subscales correlate with each other, thus they lack specificity. However, it is extremely difficult to identify a psychometric assessment

where items correlate with the target concept of the assessment and not with each other (Klein, 1986), and it should be highlighted that despite the correlations suggesting limited specificity, the subscales were shown to be rater differentiable in the tests of face validity. It is also suggested by the authors that these correlations may be indicative of the notion that self-serving cognitions can be consolidated into a holistic world view that can be characterised as a “criminal mind” as proposed by Samenow (1984). This would warrant further research.

Convergent and Discriminant Validity

Convergent and discriminant validity of the HIT was assessed by examining correlations between scores on the HIT questionnaire and on several measures of antisocial behaviour. The authors state that the HIT questionnaire correlates with assessments measuring the same concepts as the HIT scales, specifically they compared the HIT with the Child Behaviour Check List (CBCL) (Achenbach, 1991a), The Youth Self Report (YSR) (Achenbach, 1991b), The Adapted Self Report Delinquency Questionnaire (SRD) (Elliot & Ageton, 1980), and archival measures including Wechsler Intelligence Scale for Children (WISC) (Wechsler, 1991) scores and critical incident reports obtained from the archives of some institutions.

Self reported antisocial behaviour as measured by the externalising scale of the YSR correlated with the HIT questionnaire scores in all four validation samples, as did self reported antisocial behaviour as measured by the SRD, but only in validation sample 2 (court referred adolescents for psychological assessment). However this research is (as highlighted earlier) unpublished and information given in the manual is difficult to corroborate without direct contact with the author. In a published independent study however, Barnard (1998) found that the HIT correlated with self reported anger as measured by the Novaco Anger Scale (Novaco, 1994).

Additionally, further support for the convergent validity of the scale was found with other measures of antisocial behaviour as measured by the externalising Scale of the CBCL, in two of the validation samples (those where antisocial behaviour was measured). The manual reports that significant correlations were also found between the HIT scores and institutional misconduct in a sample of incarcerated participants in the refinement sample, however what is not clear is whether this was tested on the original HIT before the item amendments were made, or whether the final HIT questionnaire was administered at a later date. This highlights a major limitation in the authors reporting of their validity and reliability analyses, as the number of samples used can be misleading in that the more samples you use, the higher the

probability of finding significant results (Kline, 1986), here they bring in the refinement sample which has not been used in any of the previous analyses (total sample = 193). Conversely, in addition to this, all the samples that make up the total sample are fairly small (N = 45-68), thus decreasing the reliability of the statistical analyses. It would have been preferable to have overcome these issues by using a larger sample size originally, although it is recognised that this is not always possible, and it is clear that attempts have been made to establish the convergent validity of the tool.

Discriminant Validity was also tested with good results in two samples of court referred delinquents and urban high school students, and psychiatrically hospitalised externalising youths and urban high school students. Discriminant validity of the HIT was also shown in a study by Barnard (1998) who found a significant group effect using the HIT for a sample of incarcerated adolescent offenders vis-à-vis a comparison sample of high school students. This study provided evidence for the generalisability of discriminant validity findings in the original Midwestern USA sample with a Southwestern USA sample. However to date there has not been any attempt to replicate any of the reliability or validity analyses of the HIT in a UK sample.

Construct Validity

Construct validity necessitates the simultaneous consideration of the whole set of results (Kline, 1986). All of the findings outlined point towards the HIT questionnaire possessing good construct validity, that is it measures what it purports to be measuring. Despite the minor problems identified thus far, the HIT does appear to be a valid assessment which measures self-serving cognitive distortions in youth. Further verification of the validity of the HIT can be surmised by considering the reliability of the measure. Indeed the general view is that high reliability is a pre-requisite of validity, but caution should be taken reliability does not mean that you have validity (Kline, 1986).

Reliability of the HIT

Internal consistency

In order for a test to be valid, it must be consistent; hence the psychometric emphasis on internal consistency reliability. The internal consistency of the HIT was assessed using Cronbach's alpha coefficient and reported in the manual for the overall HIT questionnaire score, the Overt and Covert Scales, the four Cognitive Distortion subscales, the four Behavioural Referent subscales, the AR scale and the PF items (Barriga, Gibbs, Potter &

Liau, 2001). Alphas were computed separately for all of the validation samples, the results of which can be found in Table 6 below, the range of internal consistency is 0.93 to 0.96. It can be seen that the cognitive distortion subscales, the behavioural referent subscales and the AR scales were high (alpha coefficients ranging from .51 to .92), and internal consistency estimates of the overall HIT score were very high, ranging from .92 to .96. The alphas for the positive fillers subscale are low, however this is not problematic as these questions are not included in the scoring of the questionnaire.

Table 6: Internal Consistency Reliability as measured by Cronbach's Alpha Coefficient

SCALE	Validation Sample						
	Validation Sample 1		Validation Sample 2		Validation Sample 3		Validation Sample 4
	Group 1 N=68	Group 2 N=67	Group 1 N=45	Group 2 N=49	Group 1 N=53	Group 2 N=52	Entire sample N=193
HIT Questionnaire	.96	.93	.94	.92	.96	.96	.95
Overt Scale	.92	.84	.85	.83	.91	.91	.90
Covert Scale	.93	.88	.90	.87	.94	.91	.90
Self-Centred	.86	.74	.77	.73	.89	.80	.79
Blaming Others	.85	.77	.78	.76	.84	.80	.82
Minimising/Mislabelling	.87	.79	.81	.81	.88	.85	.83
Assuming the Worst	.84	.77	.82	.71	.84	.81	.83
Opposition Defiance	.81	.63	.69	.69	.80	.78	.79
Physical Aggression	.88	.79	.76	.71	.86	.82	.86
Lying	.79	.78	.79	.70	.87	.82	.79
Stealing	.92	.83	.87	.84	.93	.87	.86
Anomalous Responding (AR) scale	.66	.74	.69	.69	.66	.89	.78
Positive Fillers (PF)	.75	.59	.51	.68	.85	.90	.68

(Information taken from the HIT manual, Barriga, Gibbs, Potter & Lau, 2001)

Test-Retest Reliability

The manual cites high test-retest reliability ($r(135) = .91, p < .0001$) at a 1 week interval established by Barriga and Gibbs (1996). However, this figure was based on the original HIT questionnaire used with the refinement sample, which although it formed part of the final sample, was not the sample on which the normative data are based. According to Kline (1986, 3) care must be taken not only to ensure that samples are representative of the population for whom the test is intended, but also that the test-retest reliability is not artificially raised by having the sessions close together. In this case the sessions were one week apart. Thus, despite data on the HIT indicating good test-retest reliability, this is dubious, and would therefore need to be repeated. Also, the range of inter-rater reliability was not assessed which is an additional limitation.

Appropriate norms

Appropriate control group norms are essential for any interpretation to be carried out at an individual or group level. Normative data are available on the HIT. They are based upon 14-19 year olds but research has also shown that the HIT holds good reliability in other age groups, including adults (with reading ages of fourth grade) (Hawkins, 2003) which is an advantage. The HIT instrument was normed on the nonreferred youth from all five of the samples, and attempts were made to ensure that the sample was demographically represented. The final normative sample consisted of 412 youth (226 male and 186 female). This is relatively small in comparison to normative data of other instruments used with youth. For instance the normative data on the Trauma Symptom Checklist for Children (TSCC, Briere, 1996) was based on studies with 3008 children. Separate norms are not available for gender or race, and justification for this is not given in the manual.

Uses of the HIT

The utility of the HIT questionnaire in the assessment of clinical outcome has been investigated in two independent studies, again both on USA samples (White, 1996; Hawkins, 2003). However the White study was never published, although it is referenced in the manual. It showed good sensitivity in these clinical outcome studies, and is also proposed to be useful in assessment, treatment planning, tracking therapeutic progress, and individual or programme-level outcome evaluation. However specific evidence for each of these is not provided in the manual. Another advantage of the HIT is that it is typically completed in 5 to 15 minutes. In addition, the HIT could be used to inform the negative attitudes risk factor on the Structured Assessment of Violence Risk in Youth (SAVRY) (see example in the SAVRY for the case study in appendix 3).

Alternative measures

As highlighted earlier, research efforts in this area are almost exclusively concerned with cognitive distortions in adults (Barriga, 2000). In order to address this, Leitenberg, Yost and Carroll Wilson (1986) developed the Children's Negative Cognitive Error Questionnaire to measure self-debasing cognitive distortions. However as the name indicates, this measure only assesses self debasing cognitive distortions. A number of measures of self serving cognitive distortions were developed, including the Neutralization Inventory (Ball, 1968), and the Psychological Inventory of Criminal Thinking Styles (Walters, 1995). However the item content of these was geared towards adults, and other significant limitations were revealed in terms of readability, applicability, content, reliability and/or validity. The How I Think

questionnaire (Gibbs, Barriga & Potter, 2001), is the only measure which specifically looks at self serving cognitive distortions in children and adolescents, although there are similar measures currently being developed. For instance the Antisocial Beliefs and Attitudes Scale (ABAS), is a broad-based measure designed to assess antisocial beliefs and attitudes used to justify deviant behaviour in pre-adolescents and adolescents, that is showing promising results in validity and reliability analyses (for a full review of the ABAS please see Butler, Leschied & Fearon, 2007). In terms of adult tools, the QACSO is a measure of attitudes consistent with *sexual offending* for offenders with DD (an area in which research appears further advanced). However, a lack of definitional clarity in the research surrounding self serving cognitive distortions makes it difficult to identify and compare alternative tests.

Conclusions

The HIT questionnaire is a tool suggested for both clinical and research purposes. It was developed over a long period of time with fairly stringent psychometric testing, and a strong research base drawing primarily upon Gibbs and Potters typology of cognitive distortions (Barriga, Gibbs, Potter & Liau, 2001). Indeed, the notion of ‘cognitive distortion’ has become enshrined in the offender treatment literature over the last 20 years, yet the concept still suffers from a lack of definitional clarity (Maruna & Mann, 2006). In a review of the extant risk assessment and treatment literature on sexual offenders with learning disabilities, Craig and Hutchinson (2005) found that most treatments for sexual offenders with learning disabilities have been adapted from the mainstream programmes compensating for cognitive deficits. A common component among the majority of adapted programmes they highlight is, challenging denial and restructuring cognitive distortions. In this context, an assessment designed for adolescents to measure a specific component of cognitive distortions linked with violent offending (that is self-serving cognitions) is a welcome development in forensic DD literature, and would fit well into the field.

Despite this, there are still quite major test construction considerations that need to be repeated and reported. Specifically, research is needed to further investigate the reliability of the HIT and further validation of the HIT is warranted on a larger sample and in a UK population in addition to clarification regarding its use in samples of adolescents with DD. It is perhaps for this reason that the HIT is not yet widely cited. However due to high levels of validity established in studies to date, ease of use, inclusion of validity scales, and lack of alternative measures, it may become more popular in the future.

In conclusion, the utility of any given psychometric measure depends upon the context in which the assessment is to be used (Strand, Sarimento & Pasquale, 2005). The HIT aims to assess the level of self-serving cognitive distortions held by youth. Used in this context, the HIT is a valid and potentially reliable measure for both clinical and research purposes. The following chapter gives further consideration to the use of the HIT in informing the assessment and treatment of offence related factors in a case study of a 16 year old evidencing a violent index offence and a DD (Autistic Spectrum Disorder).

CHAPTER FIVE

**A SINGLE CASE STUDY:
A 16 YEAR OLD EVIDENCING A VIOLENT INDEX OFFENCE AND DIAGNOSIS
OF AUTISTIC SPECTRUM DISORDER**

CHAPTER SIX

DISCUSSION

Discussion

Concerns have been raised about the general standard ('short fall') of identification, assessment and treatment of individuals with DD who have offended (Banes, 2002). This thesis set out specifically to explore the current approaches to assessment and treatment of violence in adolescents with DD. Along the way consideration has been given to whether the needs of adolescents with DD who have offended are different to those adolescents without DD, and whether the assessment and treatment of this population, which until now has been largely ignored, should be different also.

A literature review in chapter 2 explored the availability and effectiveness of treatment with DD populations. The review highlighted the scarcity of studies which specifically evaluate treatment for adolescents with DD who have offended. Treatment approaches have been developed for adult populations with DD but have been hampered by the lack of standardised assessments validated for use with this specific population. The little research that has been conducted is promising, but is tentative due to the limitations of research in this area and poor methodological designs. The review was thus limited to drawing tentative conclusions about the efficacy of treatment interventions. But did conclude that research in the area of treatment for sexual violence appears to be further advanced than that of treatment for violence, and CBT based programmes appear to be the most favoured treatment approach. Another tentative finding arose from the review of the literature which was consistent across offending types (violence, sexual and arson), whereby trends were noted (where measured) in increased knowledge and understanding or risks/offence related issues (Taylor, Thorne, Robertson & Avery, 2002; Rose, Jenkins, O'Connor, Jones & Felce, 2002; Craig, Stringer & Moss, 2006; Murphy, Powell, Guzman & Hays, 2007). It may be that increased understanding of offence related risk is of paramount importance in preventing recidivism in populations of individuals with DD.

Interestingly, whilst the majority of the studies reported positive findings with further improvements noted on measures, and most studies reported no further recidivism, those studies that measured attitudes consistent with offending found that the attitudes remained fairly consistent or reverted back to pre group levels at follow up. The review may therefore suggest that attitudes towards offending are perhaps more stable in populations of individuals with DD, an area which would certainly warrant further research, perhaps using tools such as the How I

think Questionnaire, critiqued in chapter 4. In general, investigation into the applicability of other psychometric tools for this population is considered to be a valid direction for future research.

Recommendations were made for designing and evaluating methodologically sound studies of treatment efficacy based on those by Chambless and Hollon (1998), and it is hoped that future research will strongly adopt these when investigating the efficacy of treatment approaches for DD adolescent offenders. Further recommendations arising from the literature review in Chapter 2 also included extending the time periods of treatment programmes in order to increase the efficacy of the interventions (with periods of approximately 2 years suggested). In addition, research was recommended to identify whether factors pertinent to predicting risk of violence are different for adolescents with DD when compared to adolescents without DD, and the question was asked, are currently used risk assessment tools appropriate for predicting risk of violence in this population?

In order to attempt in part to address the recommendation above, Chapter 3 investigated the use of an established adolescent risk assessment tool, in the assessment and prediction of risk of violence in adolescents with DD. The utility of The Structured Assessment of Violence Risk in Youth (SAVRY), was assessed in adolescents with and without DD in a forensic inpatient service. Significant findings were only evident in the group of adolescents with DD, and suggested that the SAVRY is a strong predictor of risk of violence in adolescents with DD in this sample. This surprising finding contradicts previous research which suggests specific tools are needed for this population. Therefore this study provides a promising avenue for research into the use of established adolescent violence risk assessments for individuals with DD, and gives justification for further research into the applicability of other tools designed to assess offence related factors.

The study presented in Chapter 3 also provided some interesting findings regarding dynamic and static risk factors. Specifically the Individual subscale on the SAVRY (composed of dynamic risk factors) held the strongest relationship with future violence, and the Historical subscale (composed of static factors) held the weakest relationship, thus suggesting that when predicting risk of violence in this population, a heavier emphasis should be placed on dynamic risk factors. In addition, the study showed that the SAVRY total score outperformed the Structured Clinical

Judgement, and consideration was given to the use of actuarial methods over structured clinical judgement in the prediction of violence risk.

Recommendations are also made regarding a 'best practice' method for assessing risk of violence using assessments of short term risk, for instance the Short term Assessment of Risk and Treatability, START (Webster et al. 2004) to assess acute dynamic risk, and only thereafter using long term assessments such as the SAVRY. However, in general, there is a lack of available violent outcome data in the youth risk assessment literature, particularly long-term outcome data. This lack of data limits our understanding of risk assessments, including reliability, predictive ability, and generalisability across settings and youth populations (Catchpole & Gretton, 2003). Therefore, although the current study provides some early data toward developing the SAVRY, more outcome data is needed, and from a larger sample of adolescents. Future research using larger sample sizes is also recommended in order to replicate investigation into whether additional factors such as age, gender, diagnosis, and level of IQ are associated with risk of violence, as whilst the results of this study suggested that they were not, the sample size was too small to draw definitive conclusions in this regard.

Chapter 4 critiqued the How I Think Questionnaire (HIT), which is a psychometric measure that assesses the attitudes and behaviours suggestive of a propensity towards violence in adolescence. The findings of the critique suggest that the HIT has undergone fairly stringent psychometric testing. Despite this, there are still major test construction considerations that need to be repeated and reported, and further validation is warranted. In addition, clarification regarding its use in populations of adolescents with DD is suggested, and is in part addressed in Chapter 5, where a case study is presented of a multi-model treatment programme including an adapted anger management intervention in an adolescent with DD evidencing a violent index offence.

The case study provided an individualised perspective on the assessment and treatment of risk, and utilised a battery of assessments in the planning, implementation and evaluation of treatment, which included those investigated in the preceding chapters (the HIT and the SAVRY). In reality what causes violence is generally a complex interplay of factors, and treatment should be designed accordingly to take this into account. With this in mind, treatments should continue to address the individual needs of the adolescents.

The case study attempted to draw together and utilise current research regarding recommended approaches/adaptations to assessment and treatment established in the preceding chapters of this thesis. The majority of the treatment programmes reported on in the literature review adapted their treatment approaches to take into account the specific needs of offenders with DD, including impairments in verbal comprehension and expressive language performance. Specific adaptations include the simplification of concepts, the use of visual imagery, and variety in the presentation of information, as well as an emphasis on the generalisation of skills developed in treatment to day-to-day environments and the development of relapse prevention plans. In addition, behavioural approaches emphasising the worth of shared formulations are advancing. It is felt that this thesis demonstrates that with careful planning, treatment programmes (which take into account the cognitive profile of the adolescent) are possible, and indeed effective. It is worth noting, however that the adapted treatment programmes, simplified and designed to meet the cognitive needs of offenders with DD, may in reality also increase the efficacy of treatments for non DD offenders.

The case study also reflected on the wider issues impacting upon the assessment and treatment of this young person with DD. In the literature review it was suggested that offenders with DD tend to lack the insight and executive functioning allowing them to comprehend the importance of engaging in treatment programmes (Smith & O'Brien, 2004). This case study however would argue against this and found that the engagement of the client was not particularly problematic. The case study suggested that wider systemic issues (including both the organisation and the offenders family) in fact present more boundaries and challenges to the effectiveness of treatment than that which the individual themselves present. The case study gives consideration to a number of other issues in the assessment and treatment of violence, for instance the use of formulation meetings and general issues pertinent to effective communication.

Summary

In a special edition overview of advances in forensic assessment and treatment, Borum and Otto (2000, p.2-3) stated,

“to enhance the quality of practice in assessing and treating forensic populations, the field must continue its commitment to clinically informed empirical research. However, it must also

examine actual practice patterns and attempt to encourage practitioners to consume and use new research findings and, to practice according to the highest standards of the profession.’

It is felt that this thesis goes some way in meeting these recommendations. In summary, research on adolescents is still in its very early stages, but this thesis adds to the literature to date, and synthesises some important findings with regard to the assessment and treatment of violence in adolescents with DD who have offended. Particularly in the use and refinement of established tools, and established treatment programmes with adaptations that take into account the clients' cognitive needs.

It appears that whilst the risk factors associated with violence are probably as pertinent for individuals with DD as those without, the treatment process for ameliorating those factors might have to be very different in order to take into account the differences in functioning and presentation associated with DD. The overarching concern however, lies in the poor methodological design of studies to date and the manner in which research in the area of offenders with DD has until recently 'meandered' rather than 'raged'. Given the large financial impact of incarceration of offenders with DD, and the developmental ramifications of incarcerating adolescents with DD, in addition to the impact upon the victims of the crimes these young people commit, the continued need for an empirically supported assessment and treatment process for this population is profound (Shenk & Brown, 2007). Much more research with sound methodological design is needed if we are to provide this population with the service they deserve and bring about change in the promotion of best practice in forensic settings which cater for this large (yet to date unquantifiable) proportion of the offending population.

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Appendices

Appendix 1
OAS:MNR

Appendix 2
Behaviour Monitoring

Appendix 3

SAVRY

The Structured Assessment of Violence Risk in Youth (SAVRY) (Borum, Bartel and Forth, 2003) is compiled of 24 risk items that are divided into historical, social/contextual, individual and protective risk factors. As the SAVRY is not specifically designed for persons with Autistic Spectrum Disorder, a number of key risk factors or deficits are not included. For this reason, additional items have been added to the 'Individual Factors' section.

HISTORICAL RISK FACTORS

The following historical risk factors have been identified as *present* in Jake's past and may increase his risk of further violent behaviour:-

History of Violence

For the purposes of coding this item, violence refers to any interpersonal violence that is severe enough to cause serious injury regardless of whether injury actually occurs. It also includes any sexual assaults or threats made with a weapon. For a high score, there needs to be evidence of 3 or more such acts of violence.

Whilst at children's Home Jake was reported to have displayed verbal and physical aggression. He appeared to identify issues of vulnerability regarding staff characteristics or appearance and challenged staff until he got a response. Jake also made comments about wanting to suffocate a female member of staff with a pillow or carrier bag over their head, and went on to carry out the latter threat with one female member of staff on X. Jake also made comments of a sexually explicit and aggressive nature to female members of staff at X, including illustrations of masturbation. In the home environment, Jake has also pinned his mum down and made 'sexual noises' whilst on top of her.

Jake has been on remand for throwing stones at a car driven by a pregnant lady. According to reports, Jake accused the woman of reporting his illicit drug activities to the police and he wanted to teach her a lesson. Reports also suggest that he was re-referred to a CAMHS service in X, partly because of holding a knife against another young person. He has previously put his mum in

headlocks, tried to suffocate her with a pillow whilst she was in bed (X), and held her hostage with a knife the day before the index offence. He has also assaulted his grandfather when he moved in with him after he tried to suffocate his mother.

The index offence involved Jake threatening a police officer with a knife. When discussing this incident Jake speaks about being justified in taking this action because the police officer entered his house without his permission. On the day of the index offence, Jake accused his mother of buying the “wrong cake”, he threw it on the ground and started smashing up the kitchen. He then threatened his mum with a knife. Jake called the police himself, and later stated in interview that this was because he was angry with his mum and wanted to go into care. The police witness statement reports that when the police entered the house, Jake was stood on the stairs with a kitchen knife. Jake was told to put the knife down to which he replied “get out of my fucking house”. During the incident Jake asked the police officer if his incapacitant (‘pepper’) spray would kill him. The police officer assured him it would not, to which Jake told him that it was no good then because his (Jake’s) knife would kill him (the police officer). Jake referred to the officers stab resistant jacket and asked the police officer “why are you wearing that, I’ll just stab you in the throat”.

Since admission to X Unit, Jake has displayed aggressive behaviour on 25 occasions; involving 39 incidents of aggression between X 11 of these occasions have involved physical aggression against other people ranging from mild to severe in nature.

The following signature risk signs have been noted prior to Jake becoming aggressive: Jake is reported to stick his finger up when angry. He also mutters verbal abuse under his breath towards others, and is reported to look as though he is staring through you. In addition, Jake tends to phone his mum up when he is angry.

History of Non-Violent Offending

For a high score on this item, the individual needs to have been involved in at least five or more acts of antisocial behaviour, including stealing, destruction of property and threatening behaviours.

Following admission to X Jake enquired about the procedures in case he got angry and felt like punching or biting someone. Jake was transferred to X. Here there were major concerns about Jake's intimidating and threatening behaviour towards his peers. On the X Jake was discovered in a female patient's bedroom by members of nursing staff, his intentions regarding this are unknown. Jake was transferred to X ward on the X, which is an all male ward and where he currently resides. Jake appeared to believe that if he was antagonistic towards his peers (mainly verbal aggression, and provocative statements, including sexualised comments) this would precipitate violence towards himself, and then he would be discharged from hospital.

Since arriving at X, Jake has made a number of sexualised comments to his peers for example "suck your mum", and recently in an assessment he asked the female members of staff present whether they were sexually active. It is not fully clear at present whether he is aware of the inappropriateness of his comments. Jake has repeatedly called his mum names like 'slut' and 'cocksucker' and spoke about her sexual activity with an ex-boyfriend.

Jake has a substantial history of making racist remarks. He has subjected people to unprovoked racial abuse, specifically those of Asian origin. This led to him being beaten up by a gang of Asian youths about a year ago. Jake has also directed racial abuse towards care home staff, and a number of clinicians'. On one occasion he racially abused a two year old boy in a clinic reception.

History of Self-Harm or Suicide Attempts

Jake started cutting himself on the arms and thigh with razors aged 11 following being the victim of bullying at school. He has threatened to kill himself on numerous occasions, and informed his mother in the past that he planned to hang himself from a tree. In X Jake took an overdose of Paracetamol.

Following admission X, Jake presented as anxious and agitated, and he told the staff that he was thinking of killing himself. On the X one of Jakes peers on X Unit approached staff and informed them that Jake had asked him how to commit suicide. On the X Jake made a mark on his neck with a zip, he claimed that this was to get attention from his mum. On the same day Jake had another mark on his neck similar to the first, Jake claimed this mark was made by a peer.

On the X Jake reported to his mum that he had tried to hang himself from the cupboard in his bedroom but that the clothing had given way causing him to fall to his knees, staff noted a visible red mark round his neck. However Jake informed staff on X that he had faked this ligature mark in order to move wards. Jake has been on a constant watch for most of his time on X Unit.

Parental/Care Giver Criminality

Jake's father is reported to have been a regular cannabis user who had been in trouble with the police. According to Jake's mother, his father has 32 convictions. Jake's mother is also reported to have said that she believes Jake's father might suffer from Autistic Spectrum Disorder, due to his poor interaction with people, and other unusual behaviours such as repetitive and bizarre questioning. When Jake met his father for the first time, he remarked that his father was a "weirdo" and that he was terrified of growing up to be like him. This item is rated as high due to Jake's father reportedly having a history of more than five criminal behaviours. However in reality, the impact that this would have on Jake is limited due to Jake having had limited contact with his father, and thus less opportunity to role model. If Jake was to have contact with his father in the future, this item would have to be reassessed.

Poor School Achievement

Aged 8, Jake is reported to have become physically and verbally abusive in school. Jake was bullied at school and aged 11 is reported to have stated cutting himself and truanting as a result. Jake has expressed that the other children bullied him because he had no dad. According to Jake's mother, Jake would truant frequently and would sit in a local forest until school finished and then walk home. Jake was also in trouble at school for threatening another pupil with a lighter. Due to his disruptive behaviour and racial utterances to other pupils, in year 11, Jake was advised to stay away from school. Private tutors were organised for him, and then he was told to return to school in X (if he was remorseful enough). Jake refused to go back to school and continued to truant. This has undoubtedly impacted upon Jake's school achievement, and Jake has not received any formal qualifications. Therefore this item is rated as high.

The following historical risk factors have been identified as *moderately present* in Jake's past and may increase his risk of further violent behaviour:-

Early Initiation of Violence

Early initiation of violence and/or delinquency has been associated with an increased risk for violent recidivism and predicts more serious violence. Jake is reported to have become verbally and physically aggressive aged 8 at school, this coincided with him becoming aggressive at home also although no specific incidents are recorded. Reports suggest that Jake's violence appears to have escalated in the past four years, this places his age at approximately 12 at the time this occurred. Therefore this item is deemed as moderately associated with Jake's future risk of violence.

Childhood History of Maltreatment

Jake's mother has experienced a lot of physical and verbal abuse from Jake, she describes feeling intimidated by him. In a witness statement, Jake's mother describes becoming so fed up and frustrated with Jake shouting in her face, that she spat at him. She describes him becoming extremely angry and having a "horrible look in his eyes", she states that he proceeded to push her about and covered her hair in saliva till it was dripping. This appears to have been an isolated incident, and therefore this item is deemed as moderate in relation to Jake's risk of future violence.

The following historical risk factors have been identified as *present but low risk* in relation to his risk of future violence:-

Early Caregiver Disruption

Following the incident at the beginning of this year (X) where Jake tried to suffocate his mother, he went to live with his grandfather. After assaulting his grandfather he was again moved and went to live in the children's home. However, for the purpose of coding this item, 'childhood' refers to the period from birth to 12 years of age. Therefore although Jake has had some discontinuity of care recently (which due to his possibility of ASD may have unsettled him), prior to this, Jake lived with his mother. Therefore this item is rated as Low.

The following historical risk factors have been identified as *absent* or as *needing further investigation*:-

Past Supervision/Intervention Failures

There is insufficient evidence at present to rate this item.

Exposure to Violence in the Home

Jake's mum is a single parent, although reports suggest that she has had boyfriends, there is no evidence to suggest that Jake has ever witnessed domestic violence.

SOCIAL/CONTEXTUAL FACTORS

Social and contextual risk factors examine the influence of interpersonal relationships, connection to social institutions and the environment. The following social/contextual risk factors are identified as *present* and may contribute to the risk of future violence:-

Peer Rejection

Jake has significant difficulties forming and maintaining relationships with his peers, this appears to be due to his impaired social skills. He was bullied at school in X, which necessitated intervention from the school counsellor. Jake has been the victim of physical assaults by his peers on a number of occasions since arriving at X. Jake appeared to believe that if he was antagonistic (for instance verbally abusing his peers and making allegations which have found to be unproved), this would precipitate violence towards himself, and then he would be discharged from hospital. Jake also provoked situations to orchestrate moves to the extra care facility where he would be isolated from his peers. The difficulties Jake experiences with his peers are described further under the case specific item Autistic Spectrum Disorder. Jake has therefore experienced significant rejection throughout his life and is currently experiencing significant peer rejection at present.

Stress and Poor Coping

Jake generally shows extremely poor coping ability. He was reported to often get emotional and feel unloved by family members. Jake can become angry and highly emotional very quickly and will tend to resort to maladaptive coping strategies such as aggression towards others. This may

be an attempt to create predictability in his environment, i.e. when he antagonises others, the response he obtains is generally quite predictable. It has also been suggested previously that he may be experiencing symptoms of a possible emerging affective illness. Jake has repeatedly made threats in the past to commit suicide, suggesting poor coping ability. Likely stressors include having a bad phone call with his mother, receiving bad news, and change to routine.

Poor Parental Management

Jake is described as intimidating, and controlling of his mother. In X following Jake's referral to CAMHS, Jake's mother was invited to discuss potential strategies for dealing with Jake's aggression towards her, however she did not pursue this. In X Jake's mother met with (Child and Adolescent Psychotherapist) and expressed that despite her wish to care for Jake, she felt increasingly threatened by him and unsafe in the home environment. In addition Jake's mother had returned to University X to do a X but had to stop as she was unable to manage the demands of looking after Jake and her academic work. On one occasion since Jake's arrival on X ward, the family contact had to be terminated as he became verbally and physically threatening towards his mother. Jake's mother reports Jake having a 'look in his eyes' which scares her.

Lack of Personal/Social Support

Jake has been verbally and physically aggressive to both his mother and his grandfather, who he lived with for a short while. Jake's mother continues to support him, and regularly visits and telephones him. However at times, Jake's mother's contact can be detrimental, as she will collude with Jake against staff recommendations due to the pressure he places on her. Jake does not have contact with his father at present.

The following social/contextual risk factors are identified as *moderately present* and may contribute to the risk of future violence:-

Peer Delinquency

Affiliation with delinquent peers is an important risk factor and treatment target for adolescents. The affiliative process may be considered as a second step in a sequence that begins with peer rejection. Aggressive children are first rejected by normal peers and so subsequently affiliate with deviant ones. Jake reports associating with deviant peers, particularly in relation to times when he would smoke cannabis. He is also reported to have associated with peers older than him.

However Jake does not have strong affiliations with any peers, probably associated with his ASD, and therefore this item is rated as moderate. Thus although he will associate but not necessarily affiliate, this is still a risk factor.

The following social/contextual risk factor has been identified as *absent*, therefore it is unlikely to contribute to Jake's risk of future violence:-

Community Disorganisation

Jake is from an area in X that has crime rates which are below the national average. Therefore this item is considered absent.

INDIVIDUAL ITEMS

Individual risk factors focus on a youth's attitudes and key aspects of psychological and behavioural functioning. The following individual risk factors are identified as *present* and may contribute to the risk of future violence:-

Negative Attitudes

Dishonesty, antisocial beliefs and attitudes, attitudes favourable to violence, and hostility toward police have all been found to predict violence among males. The How I Think Questionnaire (HIT) measures self-serving cognitive distortions and behavioural referents. Each of the cognitive distortion items represents one of four categories: self-centred; blaming others; minimising/mislabelling and assuming the worst. The behavioural referent scale examines attitudes towards oppositional defiance; physical aggression; lying and stealing. Jake scored within the non-clinical range on all of the subscales on this assessment, and his scores were significantly low on a number of the subscales. As this scores conflict with archival data, observations and other sources of information, there is good reason to believe that Jake may have underreported his agreement with the items (despite his AR (anomalous responding) score being within an acceptable range). Indeed observation of Jake during administration of the questionnaire would confer with this view, as he made references to having "changed in the past week", and "not being naughty anymore since the past week". When prompted to think of his behaviour in general and not just the past week, Jake clearly struggled to reliably identify with his behaviour and beliefs.

Of interest is that there were two subscales on the profile which were elevated, and considering Jake's underreporting, it would be acceptable to suggest that these would probably be more elevated in reality. The subscales were *Blaming Others* and *Physical Aggression*. Those who score highly on the blaming others subscale tend to misattribute blame to outside sources, or momentary aberration (one was drunk or in a bad mood etc), or misattributing blame for one's victimisation or other misfortune onto innocent others. Jake demonstrates significant difficulty generating non-aggressive solutions at times and has been physically aggressive in response to being upset.

Jake is hostile towards the police. His index offence is of threatening a police officer with a weapon, and Jake has referred to the police as 'The Pigs'. In interview Jake was unable to differentiate between individual policemen, he felt that they were all bad and all had it in for him. Jake is also said to have idolised rap artists such as Eminem and 50 cent, and to have believed the lyrics in their songs, thus choosing to carry a knife and threaten to stab people. He was reported to have believed that this was a cool way of gaining respect from people.

Risk Taking/Impulsivity

In X Jake attacked a member of the care homes staff whilst they were driving and has also displayed other high risk behaviours in the past such as trying to stop the traffic in the road. Since arriving at X, Jake has acted very quickly in response to being upset and attacked staff members, with no apparent thoughts regarding the potential consequences of his actions. This may be a function of his ASD.

Substance Use Difficulties

Jake has not recently abused alcohol or drugs due to being detained therefore this item is rated as moderate. However he has a history of substance misuse, and had been a regular cannabis user since X he also inhaled deodorants whilst in the children's home. In interview, Jake stated that he does not "do drugs anymore" and is 100% sure he won't touch drugs again. Jake appears to lack insight into the reasons he gave up smoking cannabis, which was clearly enforced as he was arrested. Jake informed me that he gave up the day he was arrested, however, he went on to say that he gave up because he didn't really like taking it because it made his chest tight, and he thought taking drugs was "pathetic". In a later informal session, Jake expressed that he had stopped using cannabis because he thought it was to blame for him becoming aggressive towards

his mum. Reports have suggested that Jake's cannabis use made him paranoid and more aggressive.

Anger Management Problems

Anger is highly associated with aggressive behaviour and negative attitudes. Jake clearly minimises his anger, and aggression. He will change the topic in interview to avoid talking about it, and generally is reluctant to report his aggression. This was echoed in the results of the NOVACO Anger Scale and Provocation Inventory (NAS-PI), which Jake agreed to complete on X. The NAS-PI is a self-report questionnaire that focuses on an individual's experiences of anger and the kinds of situations that can lead to anger. The NAS part of the questionnaire contains 60 items that yields five scores – cognitive, arousal, behavioural and anger regulations subscale scores, and also a NAS total score. The PI contains 25 items and looks at five content areas including disrespectful treatment, unfairness, frustration, annoying traits or others and irritations.

The NAS-PI contains an inconsistent responding scale, which is used to identify someone who is responding inconsistently and thus might be responding in a socially desirable manner. Jake's score on this scale suggests that he was not responding inconsistently. However this is a problem with self report measures, and socially desirable responding should not be ruled out in this case. Particularly because Jake repeatedly expressed that he was not a bad person so would 'never' do things like that. Therefore it is felt that Jake was minimising his anger, and it is useful to also consider Jake's behaviour as an indicator of his anger.

The total NAS score is the sum of item response values for all of the NAS items on the cognitive, arousal and behavioural sub-scales. Jake' score for this is in the 'low average' category, signalling that he is not experiencing significant distress in terms of controlling his anger. However, caution must be taken when interpreting these results bearing in mind the potential for Jake to have been responding in a socially desirable manner, and because Jake completed the questionnaire before an incident occurred where he attacked a member of staff. Therefore if the questionnaire was to be repeated, he may receive a different score. This may be a theme that runs throughout his answers.

The cognitive, arousal and behaviour scores address anger reactivity. Jake's self-reported results suggest that he is unlikely to react with anger in an aversive situation. The items on the anger

regulation subscale focus on effective anger coping responses. The anger regulation subscale provides an overall index of the person's report of his or her ability to regulate anger engendering thoughts and thinking styles, to effect self-calming, and to engage in constructive behaviour when faced with provocation. Jake's scores on this subscale suggest that he feels able to regulate his anger and that he is particularly good at containing his anger. However this may result in the explosive anger outbursts we have seen on occasion, as he attempts to hold back his anger for the majority of the time, and is not expressing it in appropriate ways.

The PI is intended to provide an index of anger intensity and generality across a range of provocations. It is different from the NAS score in that it asks about anger in specific situations rather than focusing on an individual's personal disposition toward anger. The PI is comprised of 25 items that describe situations that often evoke anger. Jake's self-report scores for the PI index are in the 'average' range. It should be noted that Jake scored highest on the disrespectful treatment scale, suggesting that he feels most provoked into responding in an angry manner, when he deems that others are treating him disrespectfully. This is consistent with his presentation on the ward.

It should be noted that if in the future Jake's NAS-PI scores increase, this may not represent an increase in his anger, but an increase in his willingness to report it.

Low Empathy/Remorse

Jake *significantly* lacks empathy and remorse. This impaired ability is most probably related to his ASD, and puts him at greater risk of being violent. In terms of the index offence, Jake has stated that he intended to scare the police officers with the knife so that they would leave the address, he stated that he had held the knife in his right hand whilst saying to the officers to get out the house, but he denied threatening them with the knife. However later Jake admitted having threatened the police with the knife, but felt perfectly justified in doing so because they had come into his house without his permission (despite the fact that Jake phoned the police himself). Jake completed the Social Skills Rating Scale on X. Jake rated his primary social skills difficulty as empathy, whereby he obtained a 'fewer' subscale behaviour rating, indicating that according to his own perceptions, he displays less empathic behaviours than is considered average. Empathic behaviours are those that show concern and respect for others' feelings and viewpoints.

The following individual risk factor has been identified as *present but low risk* in relation to Jake's risk of future violence:-

Low Interest/Commitment to School

Jake has expressed a keen interest in receiving education, and has been attending education sessions since his arrival at X

The following individual risk factors are identified as *absent* or as *needing further investigation*:-

Attention Deficit/Hyperactivity Difficulties

No difficulties have been reported regarding ADHD in the past. However further assessment of this item has been requested.

Poor Compliance

This item assesses factors affecting the likelihood that the youth will comply with the provision of a risk reduction plan (e.g. attending treatment, abiding by rules and conditions). Jake clearly lacks insight into his own behaviour, difficulties and consequences of his actions. When questioned in interview why he thinks he is at X, Jake replied, "because my mum begged the courts for me to be sent here, and I threatened the police with a knife". A fuller assessment is required in order to assess Jake's motivation to change, however at present it is felt that this he is probably pre-contemplation. However, Jake has attended all of the sessions that have been set out for him, and fully complied with the completion of psychometric questionnaires. He is motivated to leave X, but is unclear how he needs to do this.

There are a number of other risk management factors that may contribute to an increased risk of violence that are not covered in the SAVRY directly. Those in relation to Jake are considered below:

Other factor

Autistic Spectrum Disorder

Jake was initially referred to CAMHS in X following being bullied at school and aggression towards his mother. Jake was re-referred in X due to a deterioration in his behaviour, in addition

to receiving a charge for assaulting a police officer, holding a knife against another young person, and being violent towards his mother. Jake was seen on a number of occasions as an outpatient and briefly as an inpatient between the X where he was admitted to X Adolescent Inpatient Unit. Here a number of issues were identified, including threatening behaviour, racial abuse, inappropriate social interactions, some restricted behaviours, physical and verbal abuse towards his mother, and the use of illicit drugs (mainly cannabis). These were partly attributed to developmental difficulties under the concept of Asperger's Syndrome. Jake was also referred to a number of services including the Psychotherapy Service with a question of potentially working on his sexual fantasies against women, this does not appear to have been followed up.

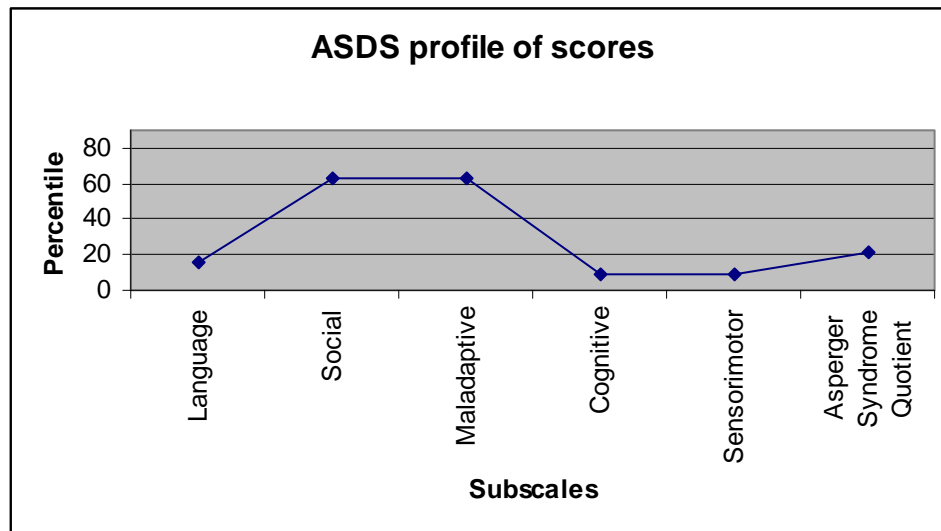
Jake was assessed in X as not suffering from a mental disorder, but having difficulties falling within the spectrum of Asperger's Syndrome, and was considered unfit to plead. Jake was also assessed by X (Consultant Forensic Psychiatrist in DD) who assessed his presentation as being consistent with a young person with high functioning Autistic Spectrum Disorder, often defined as Asperger's Syndrome. The possibility of an underlying mood disorder is also currently being investigated.

Jake has received a diagnosis of Autistic Spectrum Disorder, the difficulties associated with his presentation place him at heightened risk of vulnerability, and of committing violent acts against others. Specifically these relate to his impairment of communication, difficulty adjusting behaviour to the context he is in, limited ability to form friendships, impaired empathy/remorse and poor ability to recognise other people's emotions. Jake has undergone a number of assessments some of which are described here. In addition to those described, Jake has also completed the quiz section of the Mind Reading Programme which highlighted that although he was able to recognise facial expressions he struggled a little with vocal intonation. Thus he may find it more difficult to read meaning in people's statements.

Nursing staff completed the Asperger Syndrome Diagnostic Scale (ASDS) in relation to Jake on the X. The ASDS is a diagnostic instrument used to identify individuals likely to have Asperger Syndrome. It contains 50 items which represent behaviours that are systematic of AS. These are rated by individuals with knowledge of the individual, and his or her behaviours. The scale is divided into five subscales, these are: language, Social, maladaptive, Cognitive, and

Sensorimotor. It should be noted that the scale has been normed on a sample of 100 individuals in America.

Jake received an ASQ score of 90 (21st %tile), this can be interpreted as being within the 'likely' range for Asperger Syndrome. It should be noted that Jake scored in the lower end of the 'likely' range. However, the probability of individuals without AS receiving a score in this range is considered fairly remote. Of note is that Jake's subscale scores were elevated on all of the subscales, however the most elevated scores can be seen in the graph below:



The *Social* subscale was extremely elevated. This is a 13 item subscale which provides information about an individual's social reciprocity, eye contact and gestures, and perspective taking. An ADOS assessment completed in X corroborates this. No problems however, have been highlighted with Jake's eye contact. All these skills are required in order to make accurate judgements about the intent of other people's actions, as well as interpreting meaning in what they are saying, and communicating his own thoughts effectively. Impairments in these areas can lead to frustration and misinterpretation of social situations. In addition if you have difficulty in perspective taking, this can have implications on empathy. All of which are likely to increase Jake's risk of behaving aggressively.

In addition, the graph highlights the extreme elevation of the *Maladaptive* subscale. This is an 11 item subscale which gathers information about an individual's obsessive or ritualistic behaviours

or interests, responses to routine changes, behavioural control and anxiety. Given the results on the other psychometric tests, it is likely that the score on the maladaptive subscale was heightened due to Jake's anxiety, and difficulties with change as opposed to obsessive or ritualistic behaviour, which at present he does not appear to experience.

The subscale scores suggest that although still slightly elevated Jake has significantly less difficulty in the following areas: *Language, Cognitive, Sensorimotor*

- This is not in keeping with the significant difficulties identified on the Wechsler Abbreviated Scale of Intelligence (WASI) assessment and suggests that superficially Jake presents as verbally and cognitively more able than testing suggests.

We would recommend that Jake be assessed by a Speech and Language Therapist in order to clarify the nature of his communication difficulties. Assessment using the Wechsler Intelligence Scale for Children is also suggested in order to clarify his *full* pattern of cognitive strengths and weaknesses.

Jake and staff also completed the Social Skills Rating System on the X. The Social Skills Rating System is a nationally standardised series of questionnaires that obtain information on the social behaviours of children and adolescents from teachers, parents, and the young person themselves. Items on each scale are rated according to perceived frequency and importance.

Staff completed the parent form on X, staff are requested to make both frequency (How Often) and Importance (How Important) ratings of the young person on four social skills subscales: Cooperation, Assertion, Responsibility, and Self-Control; and two Problem Behaviours subscales: Externalising Problems and Internalising Problems.

Based on the staff ratings of Jake's social skills, he obtained a Social Skills Scale standard score of 78. This standard score converts to a percentile rank of 7, meaning that, according to staff, Jake exhibits fewer social skills than 93 percent of the original population that the scale was normed on ($SD = -1$). At the subscale level, the behaviour levels assigned to the cooperation and assertion subscales indicate that staff's perceptions of his use of social skills in these areas is in

the average range. Based on staffs ratings of the responsibility and self control subscales, he obtained a ‘fewer’ subscale level rating, indicating that, according to staff, Jake displays fewer responsibility skills, and fewer self-control skills. Specifically, responsibility refers to behaviours that demonstrate the ability to communicate with adults and regard for property and work, and self control refers to behaviours that emerge in conflict situations, such as responding appropriately to teasing, and in non-conflict situations such as taking turns and compromising. The results suggest that Jake experiences significant difficulties in these areas in particular, and this is almost certainly a function of his ASD.

Jake’s standard score of 133 on the problem behaviours scale indicates that, according to staff, he exhibits more problem behaviours than the sample the scale was normed on. Jake’s standard score converts to a percentile rank of >98, meaning that he exhibits more problem behaviours than over 98 percent of the individuals in the comparison group ($SD = +2$). This score places Jake at the top end of the range for the incidence of problem behaviours. Jake’s problem behaviours subscale ratings for internalising problems and externalising problems are in the ‘more’ range, suggesting that staff see him as a young person who is inclined to exhibit more acting out behaviour, such as verbal aggression towards others and arguing; as well as internalising behaviours, which are behaviours indicating anxiety, sadness, loneliness, and poor self esteem. Of note is that this result is consistent with Jake’s own self report on the Beck Youth Inventories, where his scores were elevated on the anxiety and depressive symptoms scales.

Jake completed the Social Skills Rating System self report on X. The young person makes both frequency (How Often) and Importance (How Important) ratings in the following social skills subscales: Cooperation, Assertion, Empathy, and Self-Control. Of note in relation to the importance ratings, is that on a number of occasions, Jake stated well it’s not important to me, but you should do that. For instance on the item that states “I say nice things to others when they have done something well”, Jake responded “never” and, “it’s not important to me, but you should do that”. Demonstrating that he has a certain level of awareness as to where his difficulties lie.

Based on Jake’s own ratings of his social skills, a social skills standard score of 79 was obtained. This standard score converts to a percentile rank of 8, meaning that, according to Jake’s own ratings, he uses fewer social skills than 92% of the sample of young people the social skills rating

scales were normed on. At the subscale level, the behaviour levels assigned to the Cooperation, Assertion, and self-control subscales indicate that Jake's self reported use of social skills in these areas is within the average range (albeit in the low range of average – bordering on less than average). Based on Jake's self-ratings, his primary social skills difficulties lie in the area of empathy, whereby he obtained a 'fewer' subscale behaviour rating, indicating that according to his own perceptions, he displays less empathic behaviours than is considered average. Empathic behaviours are those that show concern and respect for others' feelings and viewpoints. Deficits in this area, are almost certainly related to Jake's ASD. Jake completed the Social Skills Rating Scale on X. Jake rated his primary social skills difficulty as empathy, whereby he obtained a 'fewer' subscale behaviour rating, indicating that according to his own perceptions, he displays less empathic behaviours than is considered average. Empathic behaviours are those that show concern and respect for others' feelings and viewpoints.

PROTECTIVE FACTORS

Individual and contextual protective factors can reduce the negative impact of a risk factor or diminish the probability of a violent outcome. The following protective factors are considered to be *absent*: Prosocial Involvement, Strong Attachments and Bonds, Positive Attitude Towards Intervention and Authority, Strong Commitment to School and Resilient Personality Traits

The following protective factor is considered to be *present*, but only to a certain degree: Strong Social Support.

RISK SUMMARY AND RISK SCENARIOS

A number of factors have been identified as potentially contributing to Jake's risk of violence, for instance lack of empathy/remorse, peer rejection, stress and poor coping and negative attitudes amongst others. These appear to relate directly to Jake's diagnosis of Autistic Spectrum Disorder.

A number of factors appear to precipitate Jake's aggression. For example Jake is likely to become aggressive when rules or boundaries are enforced by staff. He also has the potential to become violent rapidly following receiving bad news, or a negative interaction with his peers. Should he become violent he has the potential for causing serious harm, both physically and psychologically, to staff and patients in the vicinity. Jake has used weapons (knives) on more than one occasion in the past, therefore any access to potential weapons should be restricted.

Jake's actions can be impulsive and could potentially catch people off guard. At other times there will be a clear build up to aggression, predicted at times through the signature risk signs such as sticking his finger up, muttering verbal abuse under his breath towards others, and appearing to stare through people. In addition, if Jake has been angry whilst on the phone to his mother, this may precipitate an aggressive act. Jake's aggressive behaviour is best managed with a high staff presence. In addition, if staff are planning to give him feedback which he might not like, they need to ensure they are not too close to him, and that at least one other member of staff is present. It is crucial that Jake's difficulties are interpreted both with his ASD and learning difficulties in mind, as assessments have shown that Jake will *present* as though he is able to understand the information given to him (WASI VIQ = 62, PIQ = 107).

Jake should be given verbal instruction when aggressive, and if possible an initial prompt should be given stating exactly what he needs to do to end the crisis. Following the usual unit approach, whenever Jake does not react with aggression to events that usually result in an aggressive response, he should be given constructive feedback, so that this positive behaviour is reinforced. Undesirable behaviour that does not cause immediate harm to anyone should be ignored while Jake should be redirected to an appropriate activity.

Jake's interaction with his peers needs to be closely monitored, he may make racial slurs or other comments highly likely to provoke aggression in others and/or cause psychological harm. Jake often alienates himself from his peers, and places himself in vulnerable positions as a result of this. In addition to this the concerns raised regarding Jake's sexual inappropriateness need to be monitored. The OAS-MNR and SASBA (St Andrews Sexualised Behaviour Assessment) should be utilised for this purpose.

Appendix 4: Copy of information for consent

Lucy Adamson is the Trainee Forensic Psychologist here. There are some important things about your assessment and treatment that Lucy wants you to understand and would like to ask you about.

ASSESSMENT is the way we get to know about you before and after treatment. It involves finding out about you and your offending through talking and filling out questionnaires.

TREATMENT is the way in which we help you understand yourself and your offending, and learn ways in which you can have a better life without breaking the law.

Lucy wants to do some assessments with you before and after your treatment, to see if the treatment has helped you. She will do this by asking you to fill out questionnaires.

Once you have filled out the questionnaires they are kept locked away in a safe place. A report will be written about your assessments and treatment for each CPA and at the end of the treatment. Lucy would like to know if she can use some of this information to write up as a case study.

Lucy is not asking you to do anything extra. She would just like your permission (is it ok) to use some of the information that is collected to write up in a case study which is Lucy's homework that gets sent off for Lucy's skills to be examined.

I don't want everyone knowing my information.

Your name will be kept anonymous for the case study if you agree and only Lucy and her supervisor here will know that it is your information.



This means that Lucy deletes your name from everything so that no one will know who's information it is or where the information has come from.

Do I have to take part?



You do not have to give your permission (permission means whether it is ok or not) to use your information.

What will happen to me if I give permission (say it's ok) for my information to be used in Lucy's case study?

Nothing will happen to you if you agree for your information to be used. There should be nothing about giving your permission for your information to be used that will upset you. But if it does you can speak to any member of staff and they will try to help understand what it is that has upset you about it and will help to come up with a solution.



What if I change my mind and don't want my information used anymore?

If you change your mind and you don't want your information to be used in the case study anymore, just tell Lucy, or your doctor or nurse or member of the psychology team.



You have up to the time that Lucy hands the case study into university for her skills to be assessed to change your mind. They will not be cross with you.

OK so what happens now?



If you absolutely do not want your information we spoke about to be used in this case study then you do not do anything.



If you feel happy to give your permission (if it's ok) to use the information in this case study then the person reading this to you will sit with you and see whether you have any other questions. Then they will ask you again if you want to give your permission for your information to be used in the research. Then they will ask you to sign a consent form. A consent form is a form that we sign when we are giving our permission for something.



Consent Form



I have read (or had read to me) and understand the information sheet



Yes / No



Have you asked all the questions you want?



Yes / No



Have you had your questions answered in a way you understand? Yes / No



Do you understand it's OK to change your mind (to decide you don't want your information used)

Yes / No



Are you ok with your information to be used?

Yes / No



If any answers are 'no' or you don't want to give permission, don't sign your name!



If you do want to give permission, you can write your name below

Your name _____

Date _____



The person who explained this project to you needs to sign too:

Print Name _____

Sign _____

Date _____

Thank you for your help

Appendix 5: Raw data for the case study psychometrics

Beck Youth Inventories

The BYI-II comprises five self-report scales to assess the young person's experience of depression, anxiety, anger, disruptive behaviour and self-concept, all of which can be associated with aggression. Each inventory contains twenty statements about thoughts, feelings, or behaviours associated with emotional and social impairment in young people. Each item is rated on a four point likert scale.

Subscale	Pre	Post
	Intervention	Intervention
	Raw score	Raw score
BSCI-Y total	24	33
BAI-Y total	32	13
BDI-Y total	25	16
BDBI-Y total	11	7
BANI-Y total	14	16

How I Think Questionnaire (HIT) (Gibbs, Barriga & Potter, 2001)

The How I Think Questionnaire (HIT) measures self-serving cognitive distortions and behavioural referents. Each of the cognitive distortion items represents one or another of Gibbs and Potter's four categories: self-centred; blaming others; minimising/mislabelling and assuming the worst. The behavioural referent scale examines attitudes towards oppositional defiance; physical aggression; lying and stealing.

Components	Pre Score	%iles	Norm	Post-group scores
Overall HIT score	2.26	-	2.39 (± 0.69)	2.06
Overt scale	2.4	51	2.44 (± 0.71)	2
Covert Scale	2.13	-	2.34 (± 0.74)	2.14

<i>Cognitive Distortions:</i>				
Self-centred	2	-	2.42 (± 0.74)	2
Blaming others	2.5	62	2.42 (± 0.79)	2.1
Minimising/mislabeling	2.22	50	2.31 (± 0.78)	2.22
Assuming the worst	2.27	50	2.35 (± 0.72)	1.91
<i>Behavioural Referents:</i>				
Opposition-defiance	2.3	-	2.55 (± 0.72)	2
Physical aggression	2.5	62	2.32 (± 0.78)	2
Lying	2.25	-	2.69 (± 0.83)	2.38
Stealing	2	56	2.02 (± 0.75)	1.91

Social Skills Rating System: Jake

Social Skills Rating System Scores: Parent Form (scored by staff)

Staff make both frequency (How Often) and Importance (How Important) ratings of the young person on four social skills subscales: Cooperation, Assertion, Responsibility, and Self-Control; and two Problem Behaviours subscales: Externalising Problems and Internalising Problems. Staff completed the parent form on 23/10/07.

Subscale	Score	Interpretation
Social Skills		
Cooperation	9	Average
Assertion	12	Average
Responsibility	10	Fewer
Self control	5	Fewer
TOTAL	36	Fewer
Problem Behaviours		
Externalising Problems	9	More
Internalising Problems	8	More
TOTAL	17	More

Social Skills Score Interpretation: Staff

Based on the staff ratings of Jake's social skills, he obtained a Social Skills Scale standard score of 78. This standard score converts to a percentile rank of 7, meaning that, according to staff, Jake exhibits fewer social skills than 93 percent of the original population that the scale was normed on ($SD = -1$). At the subscale level, the behaviour levels assigned to the cooperation and assertion subscales indicate that staff's perceptions of his use of social skills in these areas is in the average range. Based on staffs ratings of the **responsibility** and **self control** subscales, he obtained a 'fewer' subscale level rating, indicating that, according to staff, Jake displays fewer responsibility skills, and fewer self-control skills. Specifically, responsibility refers to behaviours that demonstrate the ability to communicate with adults and regard for property and work, and self control refers to behaviours that emerge in conflict situations, such as responding appropriately to teasing, and in non-conflict situations such as taking turns and compromising. The results suggest that Jake experiences significant difficulties in these areas in particular, and this is almost certainly a function of his ASD.

Problem behaviours Score Interpretation: Staff

Jake's standard score of 133 on the problem behaviours scale indicates that, according to staff, he exhibits more problem behaviours than the sample the scale was normed on. Jake's standard score converts to a percentile rank of >98 , meaning that he exhibits more problem behaviours than over 98 percent of the individuals in the comparison group ($SD = +2$). This score places Jake at the top end of the range for the incidence of problem behaviours. Jake's problem behaviours subscale ratings for **internalising problems** and **externalising problems** are in the 'more' range, suggesting that staff see him as a young person who is inclined to exhibit more acting out behaviour, such as verbal aggression towards others and arguing; as well as internalising behaviours, which are behaviours indicating anxiety, sadness, loneliness, and poor self esteem. Of note is that this result is consistent with Jake's own self report on the Beck Youth Inventories, where his scores were elevated on the anxiety and depressive symptoms scales.

Social Skills Rating System Scores: Student Form

The young person makes both frequency (How Often) and Importance (How Important) ratings in the following social skills subscales: Cooperation, Assertion, Empathy, and Self-Control. Jake completed the Social Skills Rating System self report on 23/10/07. Of note in relation to the importance ratings, is that on a number of occasions, Jake stated well it's not important to me, but

you should do that. For instance on the item that states “I say nice things to others when they have done something well”, Jake responded “never” and, “it’s not important to me, but you should do that”.

Subscale	Score	Interpretation
Cooperation	11	Average
Assertion	9	Average
Empathy	8	Fewer
Self control	8	Average
TOTAL	36	Fewer

Social Skills Score Interpretation: Self report

Based on Jake’s own ratings of his social skills, a social skills standard score of 79 was obtained. This standard score converts to a percentile rank of 8, meaning that, according to Jake’s own ratings, he uses fewer social skills than 92% of the sample of young people the social skills rating scales were normed on. At the subscale level, the behaviour levels assigned to the Cooperation, Assertion, and self-control subscales indicate that Jake’s self reported use of social skills in these areas is within the average range (albeit in the low range of average – bordering on less than average). Based on Jake’s self-ratings, his primary social skills difficulties lie in the area of **empathy**, whereby he obtained a ‘fewer’ subscale behaviour rating, indicating that according to his own perceptions, he displays less empathic behaviours than is considered average. Empathic behaviours are those that show concern and respect for others’ feelings and viewpoints. Defecits in this area, are almost certainly related to Jake’s ASD.

Social Skills Strengths

Parent form:

- Uses free time in an acceptable way
- Starts conversations rather than waiting for others to start first
- Keeps room clean and neat without being reminded
- Speaks in an appropriate tone of voice
- Appropriately expresses feelings when wronged
- Joins group activities without being told to

Shows interest in a variety of things

Student form:

Ask's before using other people's things

Keep's things neat and tidy

Invite's others to join in social activities

Confidence in the Assessment Results

It should be noted that there is a fair degree of overlap between the staff rating scale and Jakes self report scale, in that they both highlight difficulties in the same areas, (with the exception of the self control scale whereby Jake rates his self control as being higher than the staff rating) this increases confidence in the results.

The NOVACO Anger Scale and Provocation Inventory (NAS-PI)

The NAS-PI is a self-report questionnaire that focuses on an individual's experiences of anger and the kinds of situations that can lead to anger. The NAS part of the questionnaire contains 60 items that yields five scores – cognitive, arousal, behavioural and anger regulations subscale scores, and also a NAS total score. The PI contains 25 items and looks at five content areas including disrespectful treatment, unfairness, frustration, annoying traits or others and irritations.

Jake agreed to complete the NAS-PI, the results of which are outlined below.

Results of the NAS-PI for Jake

	Total		Cognitive		Arousal		Behaviour		Regulation		Provocation Inventory	
	Raw score	Tscore	Raw	T	Raw	T	Raw	T	Raw	T	Raw	T
pre intervention	75	41	29	46	24	42	22	40	28	59	74	53
post intervention	70	38	25	38	26	45	19	34	25	51	57	43

The NAS-PI contains an inconsistent responding scale, which is used to identify someone who is responding inconsistently and thus might be responding in a socially desirable manner. Jake's score on this scale suggests that he was not responding inconsistently. However socially desirable responding should not be ruled out in this case, as Jake repeatedly expressed that he was not a bad person so would 'never' do things like that. In this case therefore it is useful to also consider Jake's behaviour as an indicator of his anger.

The total NAS score is the sum of item response values for all of the NAS items on the cognitive, arousal and behavioural sub-scales. Jake's score for this is in the 'low average' category, signalling that he is not experiencing significant distress in terms of controlling his anger. However, caution must be taken when interpreting these results as Jake completed the questionnaire before an incident occurred where he attacked a member of staff. Therefore if the questionnaire was to be repeated, he may receive a different score. This may be a theme that runs throughout his answers.

The cognitive, arousal and behaviour scores address anger reactivity. Jake's self-reported results suggest that he is unlikely to react with anger in an aversive situation. The items on the anger regulation subscale focus on effective anger coping responses. The anger regulation subscale provides an overall index of the person's report of his or her ability to regulate anger engendering thoughts and thinking styles, to effect self-calming, and to engage in constructive behaviour when faced with provocation. Jake's scores on this subscale suggest that he feels able to regulate his anger and that he is particularly good at containing his anger. However this may result in the explosive anger outbursts we have seen on occasion, as he attempts to hold back his anger for the majority of the time, and is not expressing it in appropriate ways.

The PI is intended to provide an index of anger intensity and generality across a range of provocations. It is different from the NAS score in that it asks about anger in specific situations rather than focusing on an individual's personal disposition toward anger. The PI is comprised of 25 items that describe situations that often evoke anger. Jake's self-report scores for the PI index are in the 'average' range. It should be noted that Jake scored highest on the disrespectful treatment scale, suggesting that he feels most provoked into responding in an angry manner, when he deems that others are treating him disrespectfully. This is consistent with his presentation on the ward.

It should be noted that if in the future Jake’s NAS-PI scores increase, this may not represent an increase in his anger, but an increase in his willingness to report it.

The Culture-Free Self-Esteem Inventory (CFSEI-2)

The Culture-Free Self-Esteem Inventory (CFSEI-2) for adolescents contains 40 items divided into the following four sub-tests: 1) General self-esteem, 2) Social/Peer related self-esteem, 3) Personal self-esteem, 4) Lie sub-test (items that indicate defensiveness or socially desirable responding). Self esteem refers to the perception the individual possesses of his/her own self worth. Low self-esteem can be an indicator of general dissatisfaction with oneself.

Scale	Norm	Score	Interpretation
Lie Sub-Test	4-8	7	Not answering in a socially desirable manner
Social	6.62 (± 1.46)	3	Low
General	11.78 (± 3.70)	4	Very low
Personal	4.68 (± 2.43)	0	Very low
Total Self-Esteem	23.50 (± 6.67)	7	Very low

Jake’ lie sub test score (=7), indicates that he is not responding in a socially desirable manner. Overall Jake scored very low, indicating that his self esteem is very low. His score’s on all the subscales were low, and very low in the cases of the general and personal subscales. General self esteem, refers to the individuals overall perceptions of their self worth. Personal self esteem refers to the individuals most intimate perceptions of their own self worth, and Social self esteem, where Jake scored low, refers to the individuals’ perceptions of the quality of their relationships with peers. Of concern is that Jake endorsed items on the scale such as yes I “often feel ashamed of myself”, I “often feel that I am no good at all”, and no to “do most people you know like you”

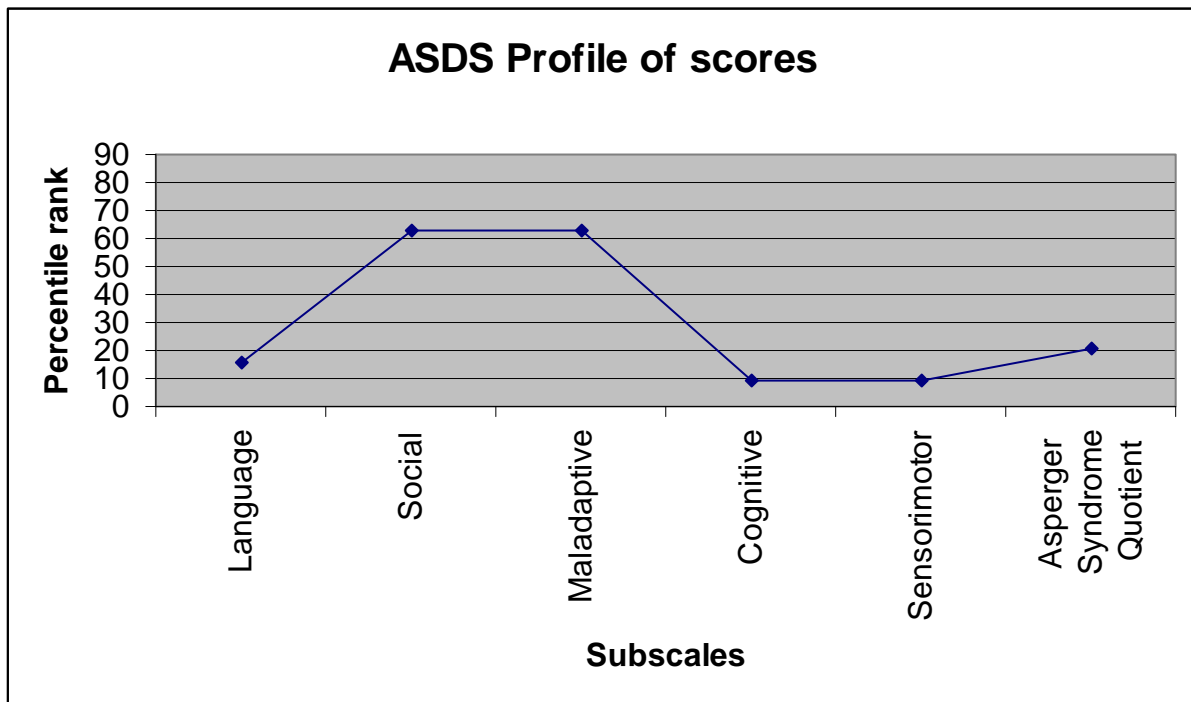
Asperger Syndrome Diagnostic Scale (ASDS): Jake

The ASDS is a diagnostic instrument used to identify individuals likely to have Asperger Syndrome. It contains 50 items which represent behaviours that are systematic of AS. These are

rated by individuals with knowledge of the individual, and his or her behaviours. The scale is divided into five subscales, these are: language, Social, maladaptive, Cognitive, and Sensorimotor. It should be noted that the scale has been normed on a sample of 100 individuals in America.

Jake has received various diagnoses in the past of Autistic Spectrum Disorder and Asperger Syndrome. Therefore, an Asperger Syndrome Diagnostic Scale was completed in relation to Jake by **nursing staff**. The results of which are available in the table below:

Subscale	Score	Standard Score	Percentile Rank
Language	5	7	16 th
Social	10	11	63 rd
Maladaptive	8	11	63 rd
Cognitive	5	6	9 th
Sensorimotor	1	6	9 th
Asperger Syndrome Quotient	29	90	21 st



As can be seen from the ASQ score (= 90, 21st %tile), Jake scored within the ‘likely’ range for Asperger Syndrome. It should be noted that Jake scored in the lower end of the ‘likely’ range. However, the probability of individuals without AS receiving a score in this range is considered fairly remote. Of note is that Jake’s subscale scores were elevated on all of the subscales, however the most elevated scores are detailed overleaf:

- Social (extremely elevated): A 13 item subscale which provides information about an individual’s social reciprocity, eye contact and gestures, and perspective taking.
- Maladaptive (extremely elevated): An 11 item subscale which gathers information about an individual’s obsessive or ritualistic behaviours or interests, responses to routine changes, behavioural control and anxiety.

Given the results on the other psychometric tests, it is likely that the score on the maladaptive subscale was heightened due to Jake’s anxiety, and difficulties with change.

The subscale scores suggest that although still slightly elevated Jake has significantly less difficulty in the following areas: *Language, Cognitive, Sensorimotor*

- This is not in keeping with the significant difficulties identified on the Wechsler Abbreviated Scale of Intelligence (WASI) assessment and suggests that superficially Jake presents as verbally more able than testing suggests.

The ABAS

Composite	Scaled Scores	Composite Scores	Percentile Rank	95% Conf. Interval
GAC	45	65	1	62-68
Conceptual	18	78	7	74-82
Social	9	70	2	64-76
Practical	18	70	2	66-74

Appendix 6:

Guidelines for Management of Individuals with Autistic Spectrum Disorder

There are a number of general principles of managing most adolescents with Asperger's ASD; these can be applied to the management of Jake:

- The ward routines should be kept as consistent, structured and predictable as possible. Adolescent's with ASD often don't like surprises. Jake should be prepared in advance, when possible, for changes and transitions, including things such as breaks, holiday days, etc.
- Rules should be applied carefully. Many adolescents with ASD can be fairly rigid about following "rules" quite literally. While clearly expressed rules and guidelines, preferably written down, are helpful, they should be applied with some flexibility. The rules do not automatically have to be exactly the same for the adolescent with AS as for the rest of the patients because their needs and abilities are different. It is essential that there are consistent consequences for rule compliance and non-compliance.
- Staff should take full advantage of Jake's areas of special interest. Adolescent's with ASD tend to learn best when an area of high personal interest is on the agenda. One can also use access to the special interests as a reward for Jake for successful completion of other tasks or adherence to rules or behavioural expectations.
- Most adolescents with ASD respond well to the use of visual information: for example schedules, charts, lists, etc. as per his daily timetable.
- In general, try to avoid language that may be misunderstood by Jake, such as sarcasm, confusing figurative speech, idioms (e.g. a baker's dozen), etc. Work to break down and simplify more abstract language and concepts.
- Try to avoid escalating power struggles. Adolescents with ASD often do not understand rigid displays of authority or anger and will themselves become more rigid and stubborn if forcefully confronted. It is always preferable, when possible, to anticipate such situations and take preventative action to avoid the confrontation through calmness, negotiation, presentation of choices or diversion of attention elsewhere.

Appendix 7: Copy of the behaviour Programme

Positive Behavioural Programme Rationale

A positive behavioural programme was introduced for Jake
The Governments plan for services for people with Learning Disability *Valuing People* (Department of Health, 2001) highlights the value of behavioural approaches for the management of challenging behaviour.

Positive approaches have been shown to reduce challenging behaviour, improve adaptive behaviour, maintain change over time and importantly generalise new skills to different situations (Carr et al, 1999). This is achieved by maximising rewards for appropriate behaviour and minimising natural rewards for challenging behaviour.

BPS Clinical Practice Guidelines 'Psychological interventions for severely challenging behaviours shown by people with learning disabilities' August 2004, highlight the need for the process to be person centred and take account of the person, the environment, their behaviour and the interaction between these three elements

Jake's behaviour programme

The behaviour programme will aim to reinforce safe behaviours which are desirable. The programme will incorporate daily feedback and aid self monitoring of behaviour.

Jake has composed a list of behaviours which he feels are safe behaviours.

Jake's SAFE behaviours are:

- Not interfering
- Not deliberately annoying people
- Going to sessions (if he has one) and working hard in those sessions
- Being polite
- No aggression/no sexualised behaviour

He receives one clear prompt if unsafe behaviour is observed ("Jake 'interfering in people's business' is not safe behaviour because it can wind people up and they might hit you, this is a prompt, if you continue to 'wind people up' you will not get your star for the hour").

If he can follow all his safe behaviours for an hour, he is given a star sticker. He is given the star sticker at the end of each hour for every hour of the day until he goes to bed, and this is accompanied by brief feedback. The maximum stars Jake can achieve is 13. Jake has to achieve 6 stars in order to get his short term reward at 6pm, and full stars (13) for his long term reward.

Upon waking, Jake should be reminded of the safe behaviours by referring him to his laminated safe behaviours list and prompted to pick his short term reward for the day, and he should stick it on his chart. Jake has a number of short term rewards that he can choose from. He has expressed that he really values having one to

one time with staff and therefore this reinforcement will be a good incentive. The short term rewards are:

- Time with staff (30 min) to do a board game (or similar activity)
- Time with staff (30min) to watch a film
- Time on the computer
- Extra room time (30min)
- At 6pm, for really safe behaviour in the day, and at staff discretion (if staffing levels warrant it) staff can ask Jake whether he would like to swap his short term reward for a community trip (green grounds symbol). Jake does not keep the community trip symbol himself, it can only be used at staff's discretion.

Jake will be given feedback after **lunch**, when **he** will put all the stars he has obtained in the morning on to his chart. While doing this give him feedback “well done, you are displaying safe behaviour”, or “it seems that you are finding it difficult to maintain safe behaviour this morning”. Talk briefly about why his behaviour was safe or unsafe and how he can improve his unsafe behaviour, and remind him “remember what your safe behaviours are (prompt if necessary), you need 6 stars by 6 o'clock to get your reward”.



Jake should then be given feedback at **6pm**, whilst he puts his other stars on the chart, and his short term reward should be facilitated if he has achieved it.

During both lunchtime and 6pm feedback, if Jake has earned his all of the stars, talk about how he can still earn more stars, to work towards his long term reward of an Indian Meal. This should act to encourage him to maintain his behaviour after he has received his short term reward. If Jake achieves his short term reward but his behaviour deteriorates he must still be given his reward at 6pm, it should be reiterated that the reward was for his safe behaviour in the morning and afternoon.

Jake continues to achieve stars each hour until he goes to bed. If Jake achieves full stars on his chart, he should be given a curry symbol for his chart. This shows that he has had a whole day of safe behaviour. Jake should be given his curry token at the end of the day before he goes to sleep. Jake will achieve an Indian Meal when he has obtained 15 'curry' symbols.

When recording RIO notes can you please indicate whether Jake achieved a star or not, and a curry symbol at the end of the day. This is necessary to help with feedback and to make sure that the chart is accurate.

Jake's Safe Behaviour Chart

(8-9am)	
	Feedback after lunch
I've got what I need for my reward but I want the Indian meal as well	
Brill (6pm)	Even Better
Wow that's great	

SHORT TERM GOAL

If I can get at least 6 stars or more by 6pm I can do my chosen activity.

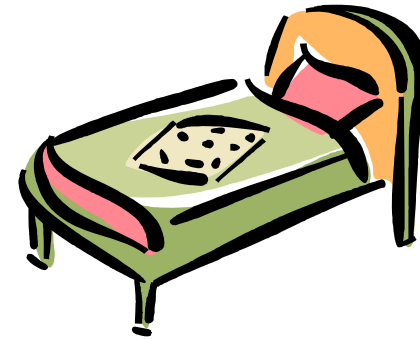
This morning I have chosen:

LONG TERM GOAL

When I get 15 curry symbols I get to go for an Indian meal with staff.

I get a curry symbol before bed when I have shown safe behaviour for a whole day

Symbols used for the visual behaviour programme



Appendix 8: