THE ASSESSMENT AND MANAGEMENT OF VIOLENCE IN FORENSIC POPULATIONS

by

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Abstract

The identification and management of individuals with a perceived high risk of future violence is of great priority for mental health professionals and the criminal justice system. The overall aim of this thesis is to examine the validity of the assessment and treatment of violence in forensic populations with a specific focus on the contribution of dynamic risk factors in predicting recidivism.

Chapter One presents a conceptual literature review which provides an overview of the development of violence risk assessment approaches, and examines the predictive validity of dynamic factors in predicting violent recidivism. The review demonstrates the ability of dynamic risk factors in predicting future community and institutional violence.

Chapter Two provides a critique of the HCR-20 Risk Assessment Scheme and highlights that despite some apparent shortcomings of the HCR-20, the instrument remains the best known and best researched, empirically based guide to violence risk assessment.

In Chapter Three a prospective research study examines the predictive validity of the HCR-20 Risk Assessment Scheme in a UK sample of patients under the care of a community forensic mental health service. The study aimed to examine the ability of the HCR-20 total scores and individual sub scale scores to predict future acts of violence. The study demonstrates that the historical factors of the HCR-20 are highly predictive of future re-offending within this population and also highlights the importance of the clinical scale in predicting future violent acts. This work adds to current knowledge and understanding of the risk assessment and management process in UK samples.

A case study is presented in chapter Four which evaluates the impact of the ETS programme on the cognitive deficits identified in a violent adult male offender (client A) serving a sentence at HMP Birmingham.

For my Grandfather

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Introduction

The field of risk assessment and management has had a long and controversial history over the past decades with various approaches to risk assessment being used by clinicians (Douglas & Ogloff, 2003). It is vital that accurate risk assessments are carried out as they play a role in the identification of individuals who pose a high risk of harm to society (Mills, 2005). Therefore a prominent development in the risk assessment literature has been the development of instruments that aid decision making about risk (McSherry, 2004). In the 1960's professionals predicted the risk of violence or dangerousness of an individual based on unaided clinical judgment. The sole reliance on this informal, subjective clinical view has been subject to a number of criticisms, which highlight this method is inadequate for conducting risk assessments (Douglas, Ogloff & Hart, 2003). In order to overcome some of these limitations researchers have focussed on developing a more formal, objective approach to risk assessment, namely actuarial prediction methods (Grove & Meehl, 1996). In contrast to the clinical approach, actuarial risk scales, employ statistical techniques to generate reliable risk predictors in order to arrive at a probability or expected value in predicting the likelihood of future behaviours. Although the advantage of actuarial prediction tools is that it improves the validity and consistency of prediction, this approach has also been subject to a number of shortcomings, for example the heavy reliance on static/unchangeable historical factors associated with risk of violence (Douglas & Skeem, 2005).

With advances in research and knowledge over the last decade, professionals have developed risk assessment tools that follow a structured clinical judgement model, in that they promote systematic data collection based on sound scientific knowledge, as well as allowing a level of flexibility in assessments. Assessments based on this model are guided by various factors that have received empirical support in the research literature. Furthermore, there has been growing interest in the consideration of dynamic or changeable indicators/predictors of violence risk (Stone, 2002). Dynamic risk factors have been broadly described as those factors which change over time, or which can be made to change through treatment and intervention. Therefore, it is important that risk

assessment also considers an individual's future life circumstances that may aggravate or mitigate risk.

Several factors have shown to predict violence in individuals. Some historical/static factors are indices of past behaviours, for example young age at time of first violence (Harris, Rice & Cormier, 1991), with a history of violent behaviour or maladjustment at an early age have all been shown to predict violence. Other static risk markers may have been rooted in the adult's past which has further been found to be predictive of violence, for example, a history of abuse, major mental disorder, relationship and employment problems (Menzies & Webster, 1995). Historical factors such as the above have been shown in various studies to relate to violence with some robustness.

As outlined previously, research has also shown the importance of dynamic or changeable indicators of violence in predicting violent recidivism. Dynamic and clinical factors such as lack of impulse control and behavioural inhibition or impulsivity have been found to be a strong correlate of violence (Webster & Jackson, 1997). Further, an individual's resistance to medication/treatment, as well as active state of mental illness are also relevant to violence (Douglas, Guy & Hart, 2009). Other dynamic factors are more related to the environment or situation in which the individual will be released into. For example, personal support from family and friends has been shown to reduce violence relapse (Estroff & Zimmer, 1994), as has whether an individual has feasible plans upon release. Unfeasible and poorly thought out plans have also been linked to increases in violence (Andrews, Zinger, Hoge, Bonta, Gendreau & Cullen, 1990).

Findings from studies that have considered dynamic or changeable indicators of risk have been generally positive. Quinsey, Colman, Jones and Altrows (1997) identified seven dynamic factors with short term predictive validity for reoffending and absconding when controlling for historical factors in a sample of supervised forensic psychiatric patients. In studying the risk of institutional violence, Muller-Isberner (1999) found that Item 5 (unresponsive to treatment) of the clinical scale of the Historical Clinical Risk

Assessment-20 (HCR-20) Risk Assessment Scheme is the most associated with inpatient violence for patients with major mental health disorder.

In consideration of the evidence outlined above, risk assessment tools that are based on the structured clinical judgement model aim to recognise the importance of both static actuarial factors, as well as the dynamic risk management factors that need to be taken into account in the risk assessment of individuals (Belfrage & Douglas, 2002).

One of the main rationales underlying structured clinical judgement instruments is to incorporate the tasks of risk prediction, assessment, management, prevention and communication (Douglas & Cox, 1999). Several schemes have been developed based on this model: the HCR-20; the Spousal Assault Risk Assessment (SARA) guide; and the Sexual Violence Risk-20 (SVR-20). One of the widely used instruments by mental health, forensic and criminal justice professionals over the years, is the HCR-20 (Webster, Douglas, Eaves & Hart, 1995; Webster, Douglas, Eaves & Hart, 1997). The HCR-20 is a broad-band violence risk assessment instrument that aligns risk markers into ten past, five present, and five future (Historical, Clinical and Risk management) items. Each of the 20 items are scored 0, 1, 2. A score of 0 indicates that the item is definitely absent, a score of 1 indicates that the item is possibly present or present in a less serious form and a score of 2 indicates that the item is definitely present. By following the HCR-20 guide, clinicians are able to consider the risk factors present for the individual and based on the relevance of risk factors use clinical judgement to categorise individuals as low, medium or high risk.

The HCR-20 has potential applicability to a variety of settings as well as being widely used in research (Douglas, Guy & Weir, 2005). The instrument has increasingly been used in UK samples as a routine risk assessment procedure, however the majority of findings from research mainly come from non UK samples and this puts into question the generalisability of findings to UK populations. Therefore, there is a need to consider how UK samples are rated on this instrument and whether this instrument has the ability to

assist in the prediction of future violent behaviours with the aim of providing further knowledge and understanding on risk assessment and management process UK samples.

The overall aim of this thesis is to examine the validity of the assessment and treatment of violence in forensic populations with a specific focus on the contribution of dynamic risk factors in predicting recidivism. With this aim in mind the thesis is structured into four main chapters which contribute to the overall aim of the thesis.

Chapter One presents a conceptual literature review which aims to provide an overview of the development of violence risk assessment approaches and examine the validity of dynamic factors in predicting violence recidivism. The main objectives are to first determine if dynamic risk factors have the ability to predict future violent re-offending and second to determine if dynamic risk factors are more effective at predicting violent recidivism in different contexts of institutional and community violence.

Chapter Two presents a critique of the Historical, Clinical, Risk Management-20, Risk Assessment Scheme (HCR-20; Webster, Douglas, Eaves & Hart, 1997). This risk assessment tool incorporates static and dynamic risk factors. The critique offers an overview of the tool and its psychometric properties, including reliability and validity. Further, it considers the tools applicability to forensic and clinical settings before going on to explore some of the limitations associated with the use of it.

In Chapter Three a prospective research study examines the predictive validity of the HCR-20 Risk Assessment Scheme in a UK sample of patients under the care of a community forensic mental health service. File reviews determined outcome measures which were violent incidents and re-offending data that occurred after the completion of the HCR-20 risk assessments. The study examines the ability of the HCR-20 total scores and individual sub scale scores to predict future acts of violence.

Chapter Four provides a case study which evaluates the impact of a Cognitive Behaviour Intervention (Enhanced Thinking Skills Programme) on the cognitive deficits identified

in a violent male offender. Such interventions are designed to reduce reconviction rates by targeting certain cognitive deficits that have been found in offenders and aim to promote change in attitudes and behaviours. Such treatment strategies map onto the dynamic, changeable factors that are related to violence. This case study demonstrates the importance of individual assessment and formulation in developing the most appropriate and effective intervention to meet the clients needs.

Chapter Five is a brief discussion, which draws together the main findings from this thesis.

CHAPTER ONE

An examination of the validity of dynamic risk factors in predicting violent recidivism: A conceptual review.

Abstract

The field of violence risk assessment has had a long and complicated history, undergoing significant improvements over the past decades. Improvements include the developments made in understanding factors and determinants of violence that assist professional risk assessments, namely the consideration of dynamic factors. This review aims to provide an overview of the development of violence risk assessment approaches. In addition, a systematic review methodology is adopted to examine the validity of dynamic risk factors in predicting violent recidivism. The objectives of this were to first determine if dynamic risk factors have the ability to predict future violent re-offending and second determine if dynamic risk factors are more effective at predicting violent recidivism in different contexts of institutional and community violence. Results demonstrate the ability of dynamic risk factors to predict community and institutional violence. The review concludes that the most highly valued form of risk assessment is one that incorporates both static factors and dynamic risk variables in predicting violent re-offending.

Introduction

Institutional and community violence has been a significant concern within society over the years. In the last decade there has been a significant increase in public and professional interest in the assessment and management of risk (Wortley, 2002) and therefore the task of assessing violence risk has dominated the field of forensic mental health for many years. The accuracy of violence risk prediction is important for many reasons including informing the legal decision making process, decisions surrounding the need for treatment and supervision, and the likelihood of recidivism (Borum, Fein, Vossekuil & Bergland, 1999). Decisions regarding such factors can result in endless consequences for both the individual and the public (Craig, Browne, Stringer & Beech, 2004) and therefore much attention needs to focus on factors associated with violence and violent recidivism. Approaches to violence risk prediction are varied, ranging from unaided clinical risk assessment to structured clinical judgement (Dolan & Doyle, 2000). Over the years there have been significant improvements in the design of instruments developed to predict the risk of violent behaviour in various clinical and forensic settings. Factors that have led to this improvement include the use of empirical knowledge and clinical expertise in the development of instruments, in addition to the consideration of dynamic or changeable indicators of violence risk (Stone, 2002). Dynamic risk factors have been broadly described as those factors which change over time, or which can be made to change through treatment and intervention (Quinsey, Rice & Harris, 1995).

History of violence prediction

Clinical Judgement

The field of risk assessment has had a long and complicated history, undergoing important improvements over the past decade. In the 1960's professionals predicted the risk of violence or dangerousness of an individual based on unaided clinical judgment, and limited attention was paid to which factors professionals based their decision on, or how accurately they assessed risk. The sole reliance on this informal, subjective clinical view has been subject to a number of criticisms, which highlight this method is inadequate for conducting risk assessments (Douglas, Ogloff & Hart, 2003). For example,

many researchers (e.g., Monahan & Steadman, 1994; Webster & Jackson, 1997) have highlighted this method has low inter-rater reliability, low validity and is limited in informing the decision making process such as release from forensic hospitals. In addition, Hood, Shute, Feilzer and Wilcox (2002) highlighted that clinical judgement appears to be biased towards over prediction, in that violent recidivism is often falsely predicted, in addition to other systematic biases (de Vogel, de Ruiter, Hildebrand, Bos & Van de Ven, 2004). For instance, it was found that professionals were accurate in predicting risk of violence reoffending in male patients with a violent history. However, they underestimated the risk of violence in female psychiatric patients (McNiel & Binder, 1994). Other dangerous consequences for the offender and the public include the fact that individuals who would not be violent on release may be detained (false positives), and violent persons who should be detained, are released (false negatives) (Douglas, Cox & Webster, 1999). Further, much of the research to date has failed to identify strong links between clinical judgements and actual outcome (Menzies & Webster, 1995).

Despite the shortcomings regarding clinical competence in making accurate predictions of violence, some researchers (e.g., Hart, 1998) have suggested that risk assessments based on clinical judgement offer flexibility, and are better than chance at predicting violent recidivism (Gardner, Lidz & Mulvey, 1996). Furthermore, Mulvey and Lidz (1985) identified that professionals could enhance the accuracy of their predictions by considering the context in which violence occurs in the individuals that they are assessing.

Actuarial Methods

In order to overcome some of the limitations of the clinical model of violence risk assessment, researchers have focussed on developing a more formal, objective approach to risk assessment, namely actuarial prediction methods (Grove & Meehl, 1996). In contrast to the clinical approach, actuarial risk scales, employ statistical techniques to generate reliable risk predictors in order to arrive at a probability, or expected value, in predicting the likelihood of future behaviours, such as reoffending. Indeed, research in the sex offending field (e.g., Hanson & Bussière, 1998) has shown that actuarial methods

have demonstrated a better prediction of recidivism compared with clinical judgement (Grove & Meehl, 1996). This pattern has also been evident in predicting recidivism in violent offenders and also mentally disordered offenders (Monahan, Steadman & Silver, 2001).

Although the level of predictive accuracy has improved as a result of advances in research methodology, in particular regarding increased reliability and validity, actuarial risk scales have also faced many criticisms over the years. First, actuarial methods ignore individual variations in risk factors (Hart, 1998) and focus on the accuracy of risk prediction variables in large, heterogeneous populations. This leads to limitations in the generalizability and applicability of the findings to other samples. Furthermore, due to the fact that actuarial tests are able to identify high risk groups, caution is required when applying probabilities derived from actuarial methods to individuals (Douglas & Skeem, 2005).

Second, they are heavily reliant on static historical, unchangeable factors with the tendency to exclude other important risk factors such as dynamic, clinical factors which have been shown to be as important, if not more important than static factors in predicting future violence (Douglas & Skeem, 2005).

Third, actuarial instruments tend to neglect the importance of violence prevention and risk management factors (Douglas, Ogloff & Hart, 2003). Furthermore, some researchers have suggested that the base rate (the prevalence of a specified type of violent behaviour within a given population over a given time period) of violence is so low that it is almost impossible to predict it (Monahan, 1996). Although it is important to note that more recent research (e.g., Lidz, Mulvey & Gardner, 1993) has shown that base rates for violence are considerably higher than previously thought. One example of an actuarial scale is the Violence Risk Appraisal Guide (VRAG) (Harris, Rice & Quinsey, 1993). Using Receiver Operating Characteristics (ROC) analysis which has been recognised as the most appropriate technique in which to assess the accuracy of violence prediction, the authors found that the VRAG predicted violent recidivism with an Area Under the Curve

(AUC) of between .73 and .75, this showing an impressive predictive validity measure (Douglas & Skeem, 2005). However, when the tool was used in a sex offender population the results were not as positive. This study highlights that when the tool is used with offender populations independent of those from which the instrument was developed, the generalisability is questionable (Grann, Belfrage & Tengstrom, 2000). A further limitation of this tool is that it appears to encourage clinicians to ignore clinical and dynamic factors outside of the 12 items considered by the tool, even though recent research shows the relevance of dynamic factors to violent behaviour (Cooke, Michie & Ryan, 2001).

Structured Clinical Judgement

With advances in research and increased knowledge and understanding regarding the importance of both clinical and actuarial risk assessment methods, professionals (e.g., Douglas, Webster, Eaves, Wintrup & Hart, 1996; Webster, Douglas, Eaves & Hart, 1997) have developed instruments which adapt a composite of empirical knowledge and professional expertise. This approach aims to recognise the importance of both static actuarial factors, as well as the dynamic risk management factors that need to be taken into account in the risk assessment of individuals (Belfrage & Douglas, 2002).

Such risk assessment tools tend to follow a structured clinical judgement model, in that they promote systematic data collection based on sound scientific knowledge, as well as allow a level of flexibility to the assessment. One such measure is the Historical/Clinical/Risk Management-20 (HCR-20; Webster et al., 1997). This instrument contains ten historical items, five clinical items and five risk management items and was devised with general psychiatric, forensic psychiatry and correctional populations and therefore has general applicability in such populations. Research (e.g. Fujii, Tokioka, Lichton & Hishinuma 2005) in various psychiatric and forensic settings in different countries have indicated that the HCR-20 demonstrates good validity for predicting violence for psychiatric patients (Gray, Hill & McGleish, 2003) as well as criminal violence in the community (Douglas, Ogloff & Nicholls, 1999). More importantly, research has highlighted that the dynamic or changeable indicators of violence as

indicated by measures such as the HCR-20 can predict violence reoffending, and absconding, when controlling for static or historical factors (Bjorkley, 2002; Quinsey, Coleman, Jones & Altrows, 1997). This area is worthy of further investigation.

Relevance of dynamic and clinical factors in violence risk assessment

There have been significant developments in the understanding of factors and determinants of violence that assist professionals in making accurate predictions of violent behaviour (Loza & Dhaliwal, 2005). However in reviewing the literature it has become apparent that research relating to dynamic violence risk predictors is limited, and the primary focus of the majority of studies is on the importance of static characteristics (Philipse, Koeter, Van der Staak & Van den Brink, 2005). Further, limited research has considered how to measure and incorporate these dynamic changeable factors into the risk assessment process (Mills, 2005). This is somewhat surprising since the aim of most professionals working within the forensic field is to reduce the risk of reoffending through treatment, hence the importance of dynamic risk factors which are sensitive to change, and therefore interventions (Beech, Friendship, Erickson & Hanson, 2002). For example, dynamic factors such as negative attitudes and impulsivity can change slowly over time through the use of interventions and therefore can be used by clinicians as treatment targets. Dynamic and clinical factors such as lack of impulse control and behavioural inhibition or impulsivity, which are one of the items on the PCL-R and HCR-20 have been found to be a strong correlate of violence (Webster & Jackson, 1997). Further, an individual's resistance to medication/treatment as well as active state of mental illness are also relevant to violence (Douglas, Guy & Hart, 2009).

In addition to the above factors, dynamic risk management markers have also shown to be correlated with future violence. Such factors are more related to the environment or situation in which the individual will be released into. For example, personal support from family and friends has been shown to reduce violence relapse (Estroff & Zimmer, 1994), as has whether an individual has feasible plans upon release, as unfeasible and poorly thought out plans are likely to increase violence (Andrews, Zinger, Hoge, Bonta, Gendreau & Cullen, 1990). Furthermore, in a study looking at the factors related to

reoffending of 7,000 offenders, May (1999) concluded that whilst criminal history is the best predictor of reoffending, those offenders with multiple problems are more at risk, and dynamic factors such as drug misuse, accommodation and employment were found to have a clear link to reconviction. In those cases with little criminal history, the knowledge of social factors was helpful in predicting reconviction.

The findings from other studies that have considered dynamic or changeable indicators of risk have been generally positive. Quinsey, Colman, Jones and Altrows (1997) identified seven dynamic factors with short term predictive validity for reoffending and absconding when controlling for historical factors. They coded a variety of predictors from the narrative documentation in the files of supervised forensic psychiatric patients in a month before they committed an antisocial act and compared these with the same predictors coded from the files in a one month period that occurred a year earlier. General findings showed increases in antisocial attitudes and non-compliance preceded antisocial acts and violent acts in particular.

In studying the risk of institutional violence, Muller-Isberner (1999) found that the Unresponsive to Treatment factor (C5) of the HCR-20 is the most associated with inpatient violence for patients with major mental health disorder. This is consistent with previous research which suggests that non-compliance with medication predicts re-hospitalisation (Haywood, 1995).

In another study Zamble and Quinsey (1997) examined dynamic factors that lead to recidivism using a retrospective study design. They examined offenders functioning during release and during the 30 days prior to their offending. Among the findings, the study found that offenders were able to identify problem areas that led to their relapse into crime. These areas included employment problems, physical or emotional health, family problems and financial problems. Furthermore, findings indicated significant differences between offenders who reoffended and those who did not for both static and dynamic factors. It is important to note that these differences remained between the two groups for many more dynamic (e.g., life worries, emotion states and alcohol

consumption) factors than static variables when criminal history and age were controlled for. One of the limitations of this study is that it relied on offender recall, and this puts into questions the accuracy of the findings. A further limitation is on its reliance on retrospective data. Retrospective design is often the key approach in risk assessment research. The main shortcoming of such design is that it is hard to replicate studies in clinical practice, mainly because only client files are used to gather information. Further, in most cases, raters are not clinicians but researchers who are perhaps more familiar with attaining good reliability and therefore are more likely to produce better results than clinicians (Philipse et al., 2005). Emphasising this point de Vogel and de Ruiter (2004) found that the between clinician inter-rater reliability on dynamic risk items in a forensic inpatient setting was lower than that between researchers.

In an assessment of dynamic risk factors of violence, Folino, Caceres, Campos, Silveri, Uein and Ascazibar (2005) considered different dynamic factors as well as violent recidivism. These were assessed in 25 prisoners on parole using the environmental risk section of the Argentinean version of the HCR-20. The authors concluded that dynamic violent behaviour risk factors are important in violent recidivism because they identify the main targets for preventive intervention. Further, it was found that the prevalence of risk factors was linked to drug abuse and socioeconomic deprivation. In addition, exposure to destabilizers was the factor most associated with violent recidivism.

In order to overcome some of the shortcomings of previous risk assessment research, e.g. studies using instruments that mainly focus on historical factors and those relying heavily on retrospective instrument validation, Philipse, Koeter, Van Der Staak and Van Den Brink (2005) examined the psychometric properties of the 47 item Clinical Inventory of Dynamic Reoffending Risk Indicators. The authors used a long term prospective follow-up design between the years 1996 to 2004. The instrument was found to discriminate accurately between a group of individuals recently admitted to hospital, high risk patients and a lower risk group ready for discharge. Further, the reliability levels of the tool were found to be similar to those of a widely used comparable tool, namely the HCR-20 instrument.

A further study that has utilised a prospective design to examine a number of static and dynamic factors is one conducted by Brown (2002). The dynamic factors were examined pre-release, one month and three months following release. The dynamic items that indicated change included employment problems, financial problems, negative affect, social support, coping ability and substance use. Among the findings, when the static and dynamic factors were compared, the dynamic items were the strongest in predicting conditional release failure. Of the dynamic factors the most strongest predictors were employment, marital support, perceived problem level, negative affect, substance abuse, social support and expected positive consequences of crime. By far the strongest level of accuracy and predictability was when both static and dynamic factors were included in the analysis.

There have been several studies that have investigated the predictive validity of the Historical, Clinical and Risk Management scales of the HCR-20 for violence in a prison population, which further demonstrate that dynamic risk predictors can predict violent reoffending. Using ROC and AUC analysis, Douglas et al. (2005) demonstrated AUC values of approximately 0.80 for the C and R scale and 0.72 for the H scale. In addition, Nikolova et al. (2005) found similar results for all three scales, (between 0.73 to 0.77). In another study Douglas et al. (2005) completed regression analysis to assess the predictive power of the H, C and R items, and found that only the C scale predicted violent recidivism.

Although the role of dynamic factors has been established in contributing to the assessment of risk, their assessment is often complex due to their variable nature (Quinsey, Book & Skilling, 2004). For example, some may relate to an offender's social networks, whereas others may relate to an offender's environment. Another difficulty arises from the fact that dynamic factors are more difficult to measure than offending history as they are often compiled from different sources, including offender self report information and are therefore more open to interpretation by the assessor. However, despite the assumption that self report measures are susceptible to deception, there is

research to suggest that self report questionnaires can be as valid and accurate as traditional methods of predicting recidivism (Kroner, Mills, Reitzel, Dow, Aufderheide & Railey, 2007). This is highlighted in various studies that have made use of self report measures (e.g., Zamble & Quinsey, 1997).

It is clear that there is a certain level of agreement between professionals that multiple indicators of risk are more successful than individual factors in predicting future violent offending. In recent years dynamic factors which have been proven to be linked to violent recidivism have been assessed through risk assessment tools such as the HCR-20. This multi variant analysis of the risk of reoffending has led to both predictive utility and knowledge and information for the design of treatment programme and intervention.

Aims and objectives

This review aims to provide an overview of the development of violence risk assessment approaches, and investigate the validity of dynamic factors in predicting violent recidivism. The main objectives are to determine if:

1. Dynamic risk factors have the ability to predict future violent re-offending.

2. Dynamic risk factors are more effective at predicting institutional violence or community violence.

Method

A Systematic approach was adopted to identify empirical research that has investigated the validity of dynamic factors in predicting violent recidivism. A search strategy was employed in order to identify all relevant publications. Databases Embase (1996 to wk 2 2009), Medline (1996 to wk 3 2009) and PsycINFO (1987 to wk 1 2009) were searched using the key terms detailed in Box 1. All search terms were modified to meet the requirements of each specific database. Reference lists were also manually searched for

additional articles as well as annotated bibliographies in order to identify unpublished work and papers/posters presented at relevant conferences.

Box 1: Search terms used for online databases

> Risk assessment, violent risk assessment, dynamic risk factors, community violence, institutional violence, predict, predictive validity, recidivism, recidivist, re-offend.

A total number of 118 references were obtained using the key words in Box 1, and a further six studies were identified from existing bibliographies. There were 72 duplicate references which were removed from the review. Of the remaining 52 studies, five had no detailed information and therefore could not be considered for the review. Of the remaining 47, the titles and abstracts of studies were manually searched in order to identify the studies that were relevant to the current review. Eleven papers were found to examine the predictive validity of dynamic risk factors for future community or institutional violence, and these are the papers critiqued for this review.

Terminology

Eight of the studies identified for this review use Receiver Operating Characteristic (ROC) Analyses. This is an emerging technique used in risk assessment research because it is less dependent on the base rate of the criterion variable in the sample, in this case violence, than are traditional measures of predictive accuracy. Results of the analysis are reported in terms of the statistical indexes that ROC produces. The Area Under the Curve (AUC) of the ROC graph is taken as an index for interpreting the overall accuracy of the predictor. Areas can range from 0 (perfect negative prediction), to .50 (chance prediction), to 1.0 (perfect positive prediction). AUC values of 0.70 are considered moderate to large, and .75 and above may be considered large.

The following violence risk assessment tools have been referenced within the current review: The Historical, Clinical, Risk Management-20 (HCR-20; Webster, Douglas, Eaves & Hart, 1997). The Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1991). Based on more than 10 years of extensive research, the Hare PCL-R assessment has become one of the leading instruments internationally for the assessment of psychopathy. The PCL-R has also been well established as a predictor of violent recidivism. The Hare Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox & Hare, 1995). The Hare PCL:SV is a 12-item scale based on a subset of PCL-R items that can be completed in civic and forensic settings. The Dynamic Appraisal of Situational Aggression (DASA; Ogloff & Daffern, 2004), an instruments that assists in the dynamic appraisal of risk for imminent aggression, and The Offender Group Reconviction Scale (OGRS; Copas & Marshall, 1998). OGRS is a risk assessment measure used to predict the likelihood of reoffending.

Results

Table 1 outlines a summary of findings from studies that have examined the validity of dynamic factors in predicting violence recidivism. It was found that five papers examined community recidivism and six papers investigated institutional recidivism. A more detailed account of the studies is outlined following the table.

Table 1. Findings from studies that have examined the validity of dynamic factors in predicting violence recidivism.

Authors, year and country of study	Participants	Sample size	Assessment used	Outcome measure	Findings
1. Ross, Hart & Webster (1998) (Canada)	**Community sample.** Patients released from psychiatric hospital	101	HCR-20 & PCL:SV	Violent behaviour in the community	For any aggression :AUC for C scale=.58 AUC for R scale= .73. For physical violence: HCR-20 total score= .67. For violent crime= .75.
2. Strand, Belfrage, Fransson & Levander (1999) (Sweden)	**Community sample.** Community Sample Patients admitted to two forensic psychiatric hospitals and discharged between 1985-1994). 14 patients had a diagnosis of psychosis, 23 PD, 3 brain damage	40 (recidivism group N= 22, non recidivism group N=18)	HCR-20	Police register used to determine whether individual had recidivated into violent criminality	Mann Whitney U analysis identified that H scale had low predictive validity, however C & R scale had very high predictive validity. HCR-20 total score had AUC= .80

Authors, year and country of study	Participants	Sample size	Assessment used	Outcome measure	Findings
3. de Vogel, de Ruiter, Hildebrand, Bos & van de ven (2004) (Netherlands)	**Community sample**. Patients discharged from a Dutch forensic psychiatric hospital between 1993 & 1999	120	HCR-20, PCL-r	HCR-20 definition of violence used- recidivism of violent incidents	The AUC values for violent offences were significantly above .50 for both (subscales of the) HCR-20, the (factors of the) PCL-R. The HCR-20 (H, R & total score) was significantly more accurate in predicting violent recidivism than unstructured clinical judgement (type of discharge). The HCR-20 total and subscales, H, C & R were significantly predictive of violent offending (.82, .80, .77 &.79 respectively). As well as factor 1 and factor 2 of the PCL-R. Although the HCR-20 total score predicted significantly better than the PCL-R score.
4. Dolan & Khawaja (2004) (England)	**Community sample.** Violent patients discharged to the community under intensive supervision	70	HCR-20	-Readmission under the MHA -Self/collateral reports of violence -Reoffending	-Readmission- HCR-20 Total Score: AUC= .85 Self report- HCR-20 Total Score: AUC= .76 Re-offending- HCR-20 Total Score: AUC= .71 Survival analysis: Time at risk in the community- C & R scale outperformed H scale

Authors, year and country of study	Participants	Sample size	Assessment used	Outcome measure	Findings
5. Gray, Taylor, Snowden, MacCulloch, Phillips & MacCulloch (2004) (England)	**Community sample.** Mentally disordered offenders discharged from a medium secure unit.	315	HCR-20 Offender Group Reconviction Scale (OGRS) Psychological Checklist: Screening Version (PCL:SV)	Convictions were obtained from the UK home office (2000) offenders index following discharge	All three measures showed predictive utility for offending following discharge. The PCL:SV & HCR-20 produced moderate effect sizes in their predictive abilities. The H and R scales of the HCR-20 were moderate predictors but C scale did not show predictive levels above chance. The criminological scale (OGRS) showed outstanding and consistent ability in identifying those patients who were going to attend.

Authors, year and country of study	Participants	Sample Size	Assessments used	Outcome measure	Findings
6. Dernevik, Grann & Johansson (2002) (Sweden)	**Institutional sample.** Forensic psychiatric patients	54	HCR-20	Inpatient violence	HCR-20 total: AUC= .68, H scale: AUC= .68, C and R scales did not predict inpatient violence.
7. Urheim, Jakobsen & Rasmussen (2003) (Norway)	**Institutional sample.** Patients admitted to a secure psychiatric facility	44 men & 7 women	HCR-20 PCL-R	Records of aggression from staff observations	AUC for the prediction of frequency were: HCR-20 total (.76), H (.67), C (.82), Risk judgment (.70). PCL-R Factor 1 (.64), PCL-R Factor 2 (.77).

Authors, year and country of study	Participants	Sample size	Assessment used	Outcome measure	Findings
8. De Vogel & Ruiter (2004) (Netherlands)	**Institutional sample.** Psychiatric hospital	127	HCR-20	File reports of inpatient violence & violence that occurred outside the hospital Mean follow up period 21.5 months	For physical violence significant AUC ranged from .67-.74. Items 2,4,5 & 7 from the H scale, items 11,12,14,15 of C scale & 16,17,19 for R scale had sig AUC values
9. Grevatt, Thomas-Peter & Hughes (2004) (UK)	**Institutional sample.** Patients admitted to a forensic psychiatric unit	44	HCR-20 H & C scales Violence Risk Scale 2 (VRS)	Institutional Violence	ROC analyses indicated the HC and VRS indices with the exception of the C scale did not have predictive accuracy for inpatient violence that was greater than chance.

Authors, year and country of study	Participants	Sample size	Assessment used	Outcome measure	Findings
10. Tengstrom, Hodgins, Muller-Isberner, Jockel, Freese, Ozokyay & Sommer (2006) (Germany)	**Institutional Sample.** Patients sentenced to psychiatric treatment in the security hospital in Germany were examined. 3 diagnostic groups examined: the schizophrenia group, the personality disorder group, cognitively impaired group	220 Schizophrenia (90) Personality disorder (66) Cognitively impaired (51)	HCR-20 PCL-SV	Antisocial & violent behaviour: physical violence towards staff or another patient, sexual harassment & antisocial behaviour	Violence: AUCs indicate that neither the total scores of the HCR-20 nor the PCL:SV predicted violent behaviour. The C scale predicted violence among the S (.70) and CI (.67) groups. Threats: The highest accuracy was found for the C score for the S group (.74) Antisocial: For the CI group the R score was the best predictor (.74). Sexual harassment: AUC's for the HCR-20 & PCL:SV total score indicated moderate accuracy in prediction for the S and CI groups. With the highest AUC's for the C (.79) scale and factor 1 score of the PCL:SV. For the S group: for all types of violence the strongest associations were found for the C items C2 & C4. The number of antisocial behaviours were strongly related to R4, C2 & H4.

Authors, year and country of study	Participants	Sample size	Assessment used	Outcome measure	Findings
11. Daffern & Howells (2007) UK	**Institutional sample.** Participants came from a high secure dangerous & severe personality disorder unit	1223	The Dynamic Appraisal of Situational Aggression C scale of the HCR-20	Behaviour monitoring records for aggression and self harm	Risk assessment ratings conducted with the DASA and HCR-20 Clinical scale reliably predict imminent aggression and self harm in personality disordered patients. AUC for DASA aggression= .65 AUC for HCR-20 C scale = .63

Community samples

Five papers examined community recidivism. In a study by Ross, Hart and Webster (1998), 112 psychiatric patients were released into the community, and data was collected on 101 of these patients. It was found that 50 % of the sample displayed violent behaviour in the community. For the HCR-20 subscales, AUCs for any aggression towards others ranged from .58 (C), to .73 (R). For physical violence, the AUCs averaged .63. The AUC for the HCR-20 total score was .67. For violent crime, the AUC HCR-20 total score was .75. For the PCL:SV, the AUC for any violence and physical violence was .65, and for violent crime it was .70. In this study all AUCs for both static and dynamic factors were found to be greater than the chance level of prediction. This study demonstrates that the dynamic risk factors (e.g. C & R scales) are predictive of future physical violence, aggression towards others and violent crime.

Strand, Belfrage, Fransson and Levander (1999) examined clinical and risk management factors in risk prediction of mentally disordered offenders in a case controlled study. The HCR-20 and PCL:SV was coded on 40 male psychiatric patients. There were 22 recidivistic patients and 18 non-recidivistic patients who were matched on a number of variables (e.g. age, offence). All individuals had been admitted to two forensic psychiatric hospitals and discharged between 1985 and 1994. The study used information from the police register to determine if the individual had recidivated into violent criminality. Based on Mann Whitney-U analyses overall high predictive validity was found. The H scale of the HCR-20 had low predictive validity while the dynamic C and R scales had very high predictive validity. The AUC of the ROC analyses was .80 for the HCR-20 and .70 for the PCL:SV.

de Vogel, de Ruiter, Hildebrand, Bos and van de Ven (2004) investigated the predictive validity of the HCR-20 and PCL-R in a sample of 120 patients discharged from a Dutch forensic psychiatric hospital between 1993 and 1999. Recidivism data (reconvictions) were collected from the Ministry of Justice. The predictive validity of the HCR-20 and PCL-R for violent offending was calculated using AUCs and Pearson's correlations. The

AUC for the HCR-20 total score was .82, H scale (.80), C scale (.77), R scale (.79). For the PCL-R total score the AUC was found to be .75. In general it was found that the AUC values for violent offences were significantly above .50 for both the subscales of the HCR-20 and the factors of the PCL-R. There were a number of limitations in this study. Firstly the study used a retrospective design, and secondly the study only used file information to code the HCR-20 and PCL-R and the quality of the file information may have differed. This study highlights significant predictive validity for both static and dynamic factors of the HCR-20.

In another study using a community sample Dolan and Khawaja (2004) investigated the predictive validity of the HCR-20 total and subscale scores among 70 male violent patients discharged to the community under supervision. The study used three types of follow up outcome data, these being reconvictions from the Home Office Offender Index, readmissions to district and forensic hospitals and self/collateral reports of violence from Community Mental Health Teams. The type of violence included sexual violence, punching, biting, choking, or assault with a weapon that resulted in physical injury to the victim. ROC analyses found the AUC for the HCR-20 total score for readmission to hospital was .85. AUC values were also highly significant for self/collateral reports of violence .75 and re-offending (AUC= .71). The AUC value for serious re-offending was not significant (AUC=.67) but was above chance level. All three subscales of the HCR-20 predicted readmission, with the highest values obtained for the H scale (AUC values ranging from .65 to .78). Kaplan-Meir survival analyses was used to examine the relationship between HCR-20 scores and time at risk in the community and it was found that the dynamic C and R scales of the HCR-20 outperformed the static H scale of the tool.

In another study using a community sample Gray, Snowden, MacCulloch, Phillips, Taylor and MacCulloch (2004) compared the predictive accuracy of the HCR-20, PCL:SV and the Offender Group Reconviction Scale. The study used a sample of 315 forensic psychiatric patients discharged from a medium secure facility in the UK between 1992 and 1999. The participants were followed up for at least two years. During the

follow up period it was found that 36.5% were convicted of any type of offence, this was identified from the Home Office Offenders Index. Using ROC analysis, total scores of all three measures were associated significantly with offending outcomes, AUC values for the HCR-20, PCL:SV and OGRS were .61, .66, and .81 respectively. The AUC for the HCR-20 subscales Historical, Clinical & Risk Management were .62, .62 and .48 respectively. Surprisingly the C scale failed to show predictive validity for re-offending. The authors concluded that this may be due to the timing at which the C scale was scored (i.e. prior to discharge when symptomatology was low rather than during a time of active symptoms) which may have impacted the findings. However it is worth noting that the AUC for the C scale was still found to be above the chance level for predicting future re-offending.

Institutional Sample

Six studies investigated institutional recidivism. Using a prospective study design Dernevik, Grann and Johansson (2002) investigated the predictive ability of the HCR-20 using a sample of 54 forensic psychiatric patients. The outcome measure used in this study was inpatient violence. The AUC of ROC for the HCR-20 to predict any incident was .68. The historical items were predictive of incidents while the clinical and risk items were not.

In 2003 Urheim, Jakobsen and Rasmussen presented a paper on the dimensions of inpatient aggressive behaviour in a security ward in Norway. They had investigated the utility of the HCR-20 and PCL-R in predicting institutional violence. The participants included forty four men and seven women admitted to the secure unit over a ten year period. The majority of the participants had a primary diagnosis of schizophrenia (41%) or other psychosis (47%). The Staff Aggression Scale was used to code aggressive episodes and this was used as the outcome measure for the study. The researchers correlated the the frequency of aggression (i.e. total episodes divided by patient days), severity of episode and occurrence of physical aggression. It was found that the HCR-20total score, C and R Scales were correlated significantly with frequency of aggression,

with *rs* being between .38 and .44. However the HCR-20 and PCL-R did not correlate significantly with physical aggression (r=.29, r=.28 respectively). The AUC values for the prediction of aggression frequency found that the HCR-20 total, PCL-R and subscales of the tools showed good predictive validity. The frequencies were: HCR-20 total (.76), H (.67), C (.82), R (.70); PCL-R factor 1 (.64), PCL-R Factor 2 (.77). AUC values for prediction of most severe episode were: HCR-20 total (.82), H (.77), C (.73), R (.76); PCL-R total (.73), Factor 1 (.65); Factor 2 (.71).

This study demonstrates that the HCR-20 total and C scale show a significant ability to predict the frequency of aggression, with the R scale showing a moderate ability and the H scale showing an above chance ability to predict the frequency of aggressive episodes. In the prediction of more severe episodes of aggressive behaviour the HCR-20 total score outperforms the subscales in its predictive ability, with the H, C and R scales showing moderate to large abilities.

de Vogel and Ruiter (2004) used a prospective study design to examine the predictive validity of the HCR-20 in a forensic psychiatric sample of a 127 men in a psychiatric hospital. Outcome data were obtained from the hospital records on inpatient violence using the HCR-20 definition of violence highlighted in the manual of the tool. AUC values were used to examine the predictive validity of the HCR-20 for physical violence. It was found that items H2, H7, H5 and H10, had significant AUC values. Significant AUCs was also found for items 11, 12, 14 and 15 of the C scale and items 16, 17 and 19 of the R scale. The AUCs values ranged from .67 to .74. Further, the HCR-20 total score and final judgments were significantly predictive for both verbal abuse (total score: AUC=.72; final risk judgment AUC= .65) and verbal threat (total score: AUC= .79; final risk judgement: AUC= .71). This study demonstrates the predictive validity of the HCR-20 historical, clinical and risk assessment scale as well as the final risk judgement when it is used for daily assessments of risk state in an in-patient psychiatric setting.

Grevatt, Thomas-Peter and Hughes (2004) retrospectively examined the predictive validity of the combined HCR-20 H and C scales and the Violence Risk Scale 2 within

the first six months of admission to a forensic unit in the UK. Both measures were completed retrospectively for 44 men using information available on admission. Types of violence coded included physical assault, verbal aggression and damage to property. ROC analyses indicated that the HC and VRS indices, with the exception of the C scale tended not to have predictive accuracy for inpatient violence that was greater than chance. The highest AUC value was for the HC composite for physical assaults (.56). AUC values for the C scale were larger, for any incidents (.72), physical assaults (.60), verbal abuse (.81) and damage to property (.65).

A study by Tengstrom, Hodgins, Muller-Isberner, Jockel, Freese, Ozokyay and Sommer (2006) examined violent and antisocial behaviour of 216 patients in a forensic hospital during a one year period. The 216 patients were separated into three diagnostic groups: the schizophrenic group (S), the personality disorder group (PD) and the cognitively impaired group (CI). The HCR-20 and PCL:SV were completed using file information. The outcome measures used were antisocial and violent behaviour, including violence towards staff, physical violence towards patients, and sexual harassment obtained from patients files and daily notes. ROC analyses were used to evaluate the accuracy of prediction of the HCR-20 and the PCL:SV. The AUCs indicated that neither the total scores of the HCR-20 nor the PCL:SV predicted violent behaviour. The C scale of the HCR-20 predicted violence among the S (.70) and CI (.67) groups. For incidents of threats the highest accuracy was found for the C subscale of the S group (.74). For antisocial behaviours, the R scale of the HCR-20 was the best predictor for the CI group. AUCs for incidents of sexual harassment the HCR-20 and PCL:SV total scores indicated moderate accuracy in prediction for the S and CI groups with the highest AUCs for the C scale (.79) and factor 1 of the PCL:SV. Further, for the S group of patients the strongest associations for all types of violence were found for the C items 2 and 4. The number of antisocial behaviours was strongly related to R4, C2 and H4.

Daffern and Howells (2007) examined the prediction of imminent aggression, and self harm in personality disordered patients of a high security hospital using the HCR-20 clinical scale and the Dynamic Appraisal of Situational Aggression (DASA). Behaviour

monitoring records were accessed for incidents of aggression and self harm as a measure of outcome. The predictive validity of the C scale items compared favourably (AUC= .75) with the DASA (AUC= .82). Further, the clinical scale reliably predicted imminent aggression (AUC for DASA = .65; AUC for HCR-20 C scale =.63). This indicates predictive validity of dynamic factors above the chance level as measured by ROC analyses.

Summary of results

The current review examined eleven studies which have considered the validity of dynamic risk factors in predicting violent re-offending. Of the eleven studies, five used participants from community samples and six used institutional samples. Outcome measures differed for all studies and included self report measures of violence, staff observations and official police/Home Office records. The majority of the studies used ROC analyses to assess the predictive accuracy of static and dynamic risk factors.

Within the five studies using community samples, three showed predictive validity above chance level (AUC>.50) for violent outcomes as measured by the HCR-20, PCL-SV and PCL-R (AUC ranged from .58-.82) One of the studies (Strand et al., 1999) identified that the H scale of the HCR-20 had low predictive validity whereas the C and R scales demonstrated large predictive validity (AUC >.70). One study (Gray et al., 2004) considering the HCR-20, OGRS and PCL-SV demonstrated that the PCL-SV and HCR-20 produced moderate effect sizes in their predictive ability. However the C scale of the HCR-20 did not show predictive ability above chance level.

Of the six studies using institutional samples, four produced moderate predictive validity for the H scale of the HCR-20. In one of the studies (Dernevik et al., 2002) the C and R scales of the HCR-20 did not predict inpatient violence, whereas another study (De Vogel et al., 2004) found that four items of the C scale and three items of the R scale had significant predictive validity (AUC range .67-.74). In the study by Daffern et al. (2007) both the C scale of the HCR-20 and DASA produced better than chance predictive

validity for inpatient violence (.65, .63 respectively). Urheim et al. (2003) demonstrated that the H, C, and risk judgement of the HCR-20 and factor 1 and 2 of the PCL-R showed moderate to large predictive validity for inpatient violence (AUC range .67-.77), with the C scale having the largest predictive ability (AUC .82).

The current review aimed specifically to consider the following objectives:

1. Do dynamic risk factors have the ability to predict violent re-offending?

From the examination of the 11 studies reviewed it appears that ten of the studies (Ross et al., 1998; Dolan et al., 2004; de Vogel et al., 2004; Strand et al., 1999; Gray et al., 2004; de Vogel et al., 2004; Tengstrom et al., 2006; Daffern et al., 2007; Urheim et al., 2003; and Grevatt et al., 2004) demonstrate AUC values 'better than chance' demonstrating ability of dynamic factors to predict future violence. However the range of AUC's varied greatly between studies (AUC ranged from .58-.82) and therefore no firm conclusions can be made with regards to the accurate predictive ability of dynamic factors. Of importance nine of the studies demonstrated moderate to large predictive validity for the total scores of measures used (HCR-20, PCL-R, PCL-SV), AUC values ranged from .67-.85. This is important to note because the total scores of the measures incorporates the dynamic and static risk factors of the risk assessment tool. Therefore this takes into account the contribution that dynamic risk factors make to the predictive ability of risk assessments for predicting future violence. From the studies reviewed there appears to be firm support for the predictive ability of dynamic risk factors for future violent re-offending.

2. Are dynamic risk factors more effective at predicting violent re-offending in the community or in institutional settings?

Five studies in this review considered the predictive validity of dynamic risk factors using community samples. It has proven difficult to highlight the exact AUC values for dynamic factors in some of the studies reviewed because some studies failed to report

these and merely reported qualitative AUC values of moderate or large effect. One study reported AUC values of .58 for the C scale of the HCR-20 and .73 for the R scale. Another study demonstrated predictive validity above .50 (chance level) for both the dynamic subscales of the HCR-20 and the factors of the PCL-R. AUC values for the H, C and R scales of the HCR-20 were .80, .77, and .79 respectively. The study by Strand et al. (1999) concluded that the C and R scales of the HCR-20 had high predictive validity for future violent acts in the community. Gary et al. (2004) indicated that the R scale of the HCR-20 showed high predictive validity for future violence in the community, however the C scale did not show predictive levels above chance.

Of those studies examining institutional violence, one study identified that the C and R scales of the HCR-20 did not predict inpatient violence. Another study demonstrated that four items of the C scale and three items of the R scale of the HCR-20 showed moderate to high predictive validity (AUC ranged from .67-.74) for physical violence in an institutional setting. In one study the DASA and the C scale of the HCR-20 showed better than chance AUC values (AUC = .65 & .63 respectively).

Overall, this review has produced mixed findings with regards to the predictive validity of dynamic risk factors in different settings. Further, due to the limitations in the reporting of findings in some of the studies included in this review no firm conclusions can be made with regards to whether dynamic risk factors are more effective in predicting community or institutional violence. However it is important to note that there is support for the predictive validity of dynamic risk factors in both community and institutional settings as highlighted above.

Discussion

The current conceptual review aimed to provide an overview of the development of violence risk assessment approaches, and investigate the validity of dynamic factors in predicting violent recidivism. The review aimed specifically to answer two main objectives, firstly whether dynamic risk factors have the ability to predict future violent re-offending and secondly whether dynamic risk factors are more effective at predicting institutional violence or community violence.

The overview of the development of violence risk assessment approaches highlighted that the prominent development in the risk assessment field has been the focus of research and increased knowledge on the instruments and models of decision making. The two traditional methods of risk assessment approaches being clinical and actuarial models have been discussed and their practical applications in the clinical and forensic settings have been examined within this review. The clinical approach has been seen as the informal, subjective model which has generally been found to be inadequate for conducting accurate decisions about risk (Douglas, Ogloff & Hart, 2003). Although some researchers have suggested that risk assessments based on clinical judgement offers flexibility and are better than chance at predicting violent recidivism, (Gardner, Lidz & Mulvey, 1996) on the whole there appears to be consensus among professionals that clinical judgement appears to be biased towards over prediction, in that violent recidivism is often falsely predicted, in addition to other systematic biases identified (Hood, Shute, Feilzer & Wilcox, 2002). In contrast, actuarial prediction methods have been described as the formal model of risk assessment. Research (e.g. Monahan & Steadman, 2001) has highlighted that this method has achieved high levels of statistical accuracy in the prediction of violence risk. However this approach is not without its limitations and has been associated with the tendency to exclude important risk factors and lack generalisability beyond samples that it was developed from. Other potential strengths and limitations of both traditional methods have been discussed within the body of this review.

This review considered whether dynamic risk factors have the ability to predict future violent re-offending. Of the 11 studies considered (five using community samples and six institutional samples) the review findings indicated that ten of the studies demonstrate AUC values 'better than chance' for the predictive ability of dynamic factors in predicting future violence. AUC values ranges from .58-.82 indicating AUC values of better than chance on some studies and AUC values of .70 which is above the recommended AUC value indicating large predictive validity (Douglas, 2001). Therefore it appears that the majority of studies within this review support the predictive validity of dynamic risk factors for future re-offending. In addition, the review findings also support the well established predictive validity of static risk factors in predicting violent re-offending.

The review produced mixed findings with regards to whether dynamic risk factors are more accurate in predicting violence in a community setting or institutional setting. Further an overall evaluation of the predictive validity of dynamic risk factors within each setting could not be conducted. This was mainly due to the lack of information regarding specificity AUC values reported in each study. However the general findings of the review did appear to provide support for the predictive validity of dynamic risk factors in both community and institutional settings.

This review highlights the potential contribution of dynamic variables to both the prediction of recidivism, and more importantly risk management issues. Dynamic factors can provide potential targets for interventions as well as issues in the management of risk in a released offender (Mills, Kroner & Hemmati, 2003). It is worth attempting to make some comparisons between the current review and previous studies although this is difficult due to the fact that no accurate estimates of the predictive validity of dynamic risk factors can be determined. As highlighted in Table 1 research by Gray, Snowden, MacCulloch, Taylor and MacCulloch (2004) failed to find a high predictive validity for the clinical subscale of the HCR-20. Among the findings, it was found that although the HCR-20 total had moderate efficacy, the clinical subscale did not predict at above chance level in this population. This finding is not consistent with the results of other research

(e.g., Belfrage, Fransson & Strand, 2000; Gray et al., 2003) and there are a few suggestions why this discrepancy may exist. Firstly, the clinical subscale of the HCR-20 was scored at the time of discharge from hospital which suggests that the individuals' mental illness had improved and remained stable. Therefore if it is the symptoms of mental illness that are related to offending behaviour, then it does not seem clear why this item will be coded when individuals are asymptomatic. In the previous Gray et al. study the clinical items were scored within two weeks of admission when clients were often symptomatic. The authors therefore suggest that the clinical items should be coded at two separate points: during a time of active symptoms of mental illness and at the time of discharge. Secondly, the present study used a retrospective design and it is suggested that clinical item scored only using case notes in retrospective designs may be unreliable. Finally, previous studies have used an assessment of institutional violence for inpatients whereas the Gray et al. (2004) study examined reconvictions following release which may explain the differences in results in various studies.

Limitations

This review is subject to a number of limitations which need to be highlighted. First, the review is susceptible to a number of biases, for example bias in the selection of included studies, and in particular publication bias. Second, the searching of databases was limited to English language publications, therefore limiting the sources included and the papers reviewed. Further limitations come from the fact that the review did not examine the quality of papers considered which limits the quality of the review and as mentioned earlier there has been a lack of information reported by some of the studies.

In addition to the above limitations, the method of outcome measures used by studies in this review make it difficult for comparisons to be made between studies in any meaningful way. For example, researchers have used a varied selection of outcome measures ranging from self report, hospital records to new convictions and therefore it is possible to say that studies are often not measuring the same construct. Many of the outcome measures are also subject to bias. For example, the use of self report measures

may be unreliable in the exact number of violent incidents due to the subjective nature of this method. Therefore it is recommended that future research should aim to utilise more than one outcome methods which will aid researchers to measure true rates of violence. Further, studies use varying definitions of violence which makes the findings between studies difficult to compare.

Implications for practice

The review findings have implications for clinical practice. It has been acknowledged that the process of risk assessment is an important clinical skill and a key component in clinical practice. Research on risk assessment has dominated the field of forensic psychology for many years and this has led to the development of instruments and procedures that accurately assess the risk of violent behaviour. Although this is a highly important development, the process of risk assessment and prediction has limited value on its own (Dernevik, Grann & Johansson, 2002). As Webster et al. (1995) highlights, assessment is only of use if it leads to better management and hence better outcome. For example, although dynamic factors have been found to predict recidivism, the practical implication from such findings is the importance of how to use such factors in the risk management of individuals assessed (Mills, 2005).

Indeed the authors of the HCR-20 Risk Assessment Scheme have highlighted strategies through which violence potential can be reduced using the dynamic factors within the HCR-20 scheme (Webster et al., 1997). As dynamic risk factors are capable of change over time, any change as measured by such items should be associated with violence risk reduction (Webster, Douglas, Belfrage & Link, 2000). Research (e.g. Douglas et al., 1999; Vincent, 1998) over recent years in various settings (e.g., civil psychiatric patients, forensic psychiatric patients) has highlighted that particularly prior to release, the scores on the C and R items of the HCR-20 tend to drop significantly. Although it is important to note that research numbers have not been extensive and many of the studies were not specifically designed to assess this change. Therefore, concrete conclusions cannot be made and further specific research is required within this area. Nevertheless, risk

management plans should be devised based on the information gathered from the process of risk assessment. Risk management typically comprises of four specific activities, including monitoring (in order to evaluate changes in risk over time), treatment (in order to reduce deficits in the individual's psychosocial adjustment), supervision (in order to make it more difficult for the individual to engage in further violence), and victim safety planning (in order to minimise victims' psychological and physical well being if violence reoccurs). This process of effective risk management is central to public protection through the prevention and reduction of harmful behaviours (Home Office, 1997).

In addition to the above, another practical implication comes from the area of risk communication. Risk communication provides an important link between risk assessment and decision-making (Heilbrun, Dvoskin, Hart & McNiel, 1999). There appears to be limited research focussing on the most effective means of communicating violence risk. Indeed, it is vital that professionals acquire the skills to effectively communicate violence risk based on the model they have chosen to base their assessment on, and the factors that have been identified, including static and dynamic risk factors. Future studies therefore need to focus on the appropriate and most effective form of communication. This is particularly important for professionals who communicate information on the risk of an individual to legal decision makers (Heilburn, O'Neill, Strohman, Bowman & Philipson, 2000).

Further to the above, there are various ethical and legal issues that need to be considered by professionals including the legal and ethical issues that govern professional relationships with the clients that they are assessing and treating. In addition, they need to be aware of confidentiality issues as well as the limitations that exist when they are conducting risk assessments. Such issues are vital to effective risk assessment and management of violence.

Conclusions

The area of violence risk assessment has expanded and developed in recent years. This has mainly been due to the increased demand for violence risk assessment in various settings, such as mental health practices and legal settings. Risk assessment is relevant to a variety of important decisions including clinical intervention, legal decisions and health care decisions. The aim of this review was to investigate the validity of dynamic factors in predicting violent re-offending. Research over the years has consistently highlighted the importance of stable, unchangeable factors such as previous violence as being associated and predictive of future violence. In more recent years, the emergence of research considering dynamic, changeable variables has highlighted that such factors are equally as important as static variables in assessing the risk of future violence, and the role of dynamic factors in establishing treatment and intervention is now well established. This review has highlighted the vital role that dynamic factors play in the process of violent risk assessment. Research over the years has mainly continued to focus on risk prediction and risk assessment, often neglecting the fact that risk assessment and the process of care and treatment should be an integrated process. Although the development in the risk assessment field has been invaluable and has led to increased knowledge and more sophisticated tools, the task for professionals now is to effectively incorporate such tools to guide effective risk management using dynamic risk factors.

It appears clear that the most highly valued form of risk assessment is one that incorporates both static factors and dynamic variables (Johnston, 2002) in addition to effectively identifying risk factors applicable to the individual and specifying intervention based on relevant dynamic factors in order to reduce risk.

CHAPTER TWO

A critique of the HCR-20 Risk Assessment Scheme.

Abstract

The aim of this chapter is to critique the HCR-20. An overview of the instrument is provided, before exploring the tools psychometric properties. The implications of the tool for use in research and clinical practice and its applicability to forensic settings are considered throughout the review. In addition, a number of limitations associated with the instrument are highlighted.

Introduction

Violence risk assessment, management and prediction is a priority issue and key component in clinical practice (Dolan & Doyle, 2000). Therefore, it is of great importance that any risk assessment instrument that has been developed, is equipped with valid and reliable psychometric properties. One such instrument that has been widely used by mental health, forensic and criminal justice professionals over the years, is the Historical/Clinical/Risk Violence Risk Assessment Scheme (HCR-20: Webster, Douglas, Eaves & Hart, 1995; Webster, Douglas, Eaves & Hart, 1997). The HCR-20 is a broad-band violence risk assessment instrument that aligns risk markers into past, present, and future (Historical, Clinical and Risk management respectively) items. Further, it is an instrument that had the potential to be applied to a variety of settings as well as being widely used in research (Douglas, Guy & Weir, 2005).

The HCR-20 is not a formal psychological test. Indeed, the authors have expressed it should be viewed as an *aide-memoire* and a research instrument rather than an empirical measure. However, its psychometric properties as a risk prediction tool have been considered in research literature (e.g. Daffern & Howells, 2007). The HCR-20 is described as an anamnestic risk assessment procedure, in that the life history of an individual is examined in relation to dispositional and contextual factors. The current circumstances of an individual are examined for presence of particular identified risk factors (Doren, 2002). The aim of this critique is to provide an overview of the HCR-20, before exploring its psychometric properties. Further, the use of the tool as a research and clinical measure and its applicability to forensic settings will be considered throughout the review.

Background

Violence has been defined as actual, attempted or threatened harm to a person or persons (Webster et al., 1997). Assessing risk for violence has been a challenging task for professional over the years (Douglas & Ogloff, 2003). In particular, the prediction and assessment of risk for future violence in persons suffering from mental and personality

disorders (Monahan et al., 2001) has proved difficult. Traditionally, clinicians have assessed violence on an individual basis, using case formulation, and until recently research tended to focus on the accuracy of risk prediction variables in large, heterogeneous populations using static actuarial predictors (Dolan & Doyle, 2000). This approach led to the clinical v. actuarial debate regarding the best approach to employ. This debate more importantly led to the development of violence risk prediction instruments which adapt a combined approach and recognise the importance of both static actuarial variables and dynamic clinical risk factors. Hart (1998) highlighted that structured clinical instruments promote data collection based on sound scientific knowledge, yet allow flexibility in the assessment process.

Overview of the Assessment

The Assessment

The Historical/Clinical/Risk (HCR-20) violence risk assessment scheme was first developed by Webster, Evans, Douglas and Wintrup (1995) and later revised by Webster, Douglas, Eaves and Hart (1997). The instrument was developed from a thorough consideration of the empirical literature concerning factors that relate to violence (Dolan & Doyle, 2000). The HCR-20 entails twenty items: ten Historical items concerned with the past, five Clinical items that reflect current, dynamic (changeable) correlates of violence, and five Risk Management items which focus on situational post assessment factors that may aggravate or mitigate risk. A complete list of the HCR-20 items is shown in Table 1. The authors recommend that a multi method assessment strategy should be adapted in completing the HCR-20 including, file review, interview, and testing. Each item of the HCR-20 is coded on a 3 point scale according to the certainty that the risk factors are present: 0 (No- the item definitely is absent or does not apply), 1 (Maybe- the item is possibly present or present to a limited extent), and 2 (Yes- the item is definitely present). The combination of each item score provides the assessor with a HCR-20 total score and subscale scores in three domains. The scoring of the HCR-20 also requires the assessor to make a final decision regarding risk of violence using another 3 point scale: 1 (low risk), 2 (moderate risk), or 3 (high risk).

Table 1: Items in the HCR-20 Risk Assessment Scheme

Historical (10)	Clinical (5)	Risk management (5)
H1 Previous Violence	C1 Lack of Insight	R1 Plans Lack Feasibility
H2 Young Age at First Violent Incident	C2 Negative Attitudes	R2 Exposure to Destabilisers
H3 Relationship Instability	C3 Active Symptom of Major Mental Illness	R3 Lack of Personal Support
H4 Employment Problems	C4 Impulsivity	R4 Noncompliance with Remediation attempts
H5 Substance Use Problems	C5 Unresponsive to Treatment	R5 Stress
H6 Major Mental Illness		
H7 Psychopathy		
H8 Early Maladjustment		
H9 Personality Disorder		
H10 Prior Supervision Failure		

The Manual

The HCR-20 professional manual provides a comprehensive guide to assessment. The authors have discussed the basis of the HCR-20 in terms of the research upon which it is based. The manual also provides the reader/assessor with a description of the test materials and procedures for completing and coding the instrument. As well as highlighting the development and validation of the tool and research in which the tool has been employed.

In more recent years the HCR-20 manual has been accompanied by a Companion Guide (Douglas, Webster, Hart, Eaves & Ogloff, 2001), that outlines current strategies through which violence potential can be reduced. The main purpose of this guide is to help

clinicians devise risk management strategies prompted by the HCR-20 violence risk factors.

The Research

Over the years a considerable amount of research has been done on the HCR-20 including a number of large scale research projects in correctional, forensic and civil psychiatric settings (Douglas, Guy & Weir, 2005), using prospective and retrospective designs. The literature on the HCR-20 will be discussed in this review as part of the evidence for its psychometric properties.

Psychometric Properties of the HCR-20

Reliability

Internal Reliability

Internal consistency relates to the degree to which various items of a test measure the same variables. Using reliability analysis, Klassen (1996) reported alpha coefficients of .73 for the H scale of the HCR-20 in a sample of 50 North American psychiatric inpatients. This exceeds the recommended alpha coefficient of .70 that suggests good internal reliability (Klein, 2000). Belfrage (1998) reported higher internal consistency coefficients for the HCR-20 total scale, H, C, and R scales in a Swedish sample, (.95; .96; .89; .85, respectively). Ross, Hart and Webster (1998) reported Cronbach's alpha of .74 for the H scale, and .64 for the C scale. Reliability characteristics of the HCR-20 within a forensic psychiatric population were reported by Douglas, Klassen, Ross, Hart, Webster and Eaves (1998). The alpha coefficients for the HCR-20 Total, H scale, C scale and R scale scores, respectively, were .78; .69; .77 and .77. However, more recently lower internal consistency has been reported by Cliax, Pham and Willocq (2002) using a Belgian forensic psychiatric sample. Alpha coefficients for the HCR-20 Total, H, C and R subscales respectively were reported to be .74; .61; .47; .54. Some level of caution is recommended when interpreting the findings from the Cliax et al. study as the alpha coefficients for the C (.47) and R (.54) scales are very low. Internal consistency ranging

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from 0.6-0.7 would indicate more acceptable reliability and 0.8 or higher indicates good reliability.

Inter-rater Reliability

Inter-rater reliability refers to the consistency of a subject's scores on an instrument rated by two or more independent raters measured at the same time. Various statistical tests can be used to evaluate an instruments inter-rater reliability including pearson's correlation and Interclass Correlations (ICCs). Claix, et al. (2002) completed an evaluation of the HCR-20 in a Belgian forensic population and reported that the HCR-20 total score had adequate inter-rater reliability (r=.73). The inter-rater reliability of the H, C, and R scales were .85; .65; .64. respectively. Based on a forensic psychiatric population, Douglas, Ogloff and Hart (2003) tested the inter-rater reliability of the HCR-20 and reported ICC values ranging from .72 to .89 for the HCR-20 total scores showing good reliability, however values were much lower for the clinical scale ranging from .34 to .69 and items on the risk assessment scale were problematic ranging from .01 to .54. This finding indicates that the inter-rater reliability between two raters scoring the HCR-20 within this sample was inconsistent. One possible explanation for this could be the varying levels of training that the raters have had, as training, education and monitoring skills can enhance inter-rater reliability. The finding of this study has been repeated in a Dutch sample of treated forensic psychiatric patients (de Vogel, Ruiter, Hildebrand & Bon Van de Van, 2004) with the ICC for the total HCR-20 score, H scale, C scale, R scale and for the structured final risk judgement were .83; .89; .76; .58; .73. respectively.

Further evidence for the inter-rater reliability of the HCR-20 comes from a range of studies in various settings (e.g. correctional, forensic and general psychiatry) and countries (e.g. Canada, United States, Germany). Generally, inter-rater reliability coefficients have been found to be acceptable and encouraging for the use of HCR-20. Coefficients for the full scale have averaged in the .80+ range (e.g. Pham, Claix & Remy, 2000; Stand & Belfrage, 2001). Although research in the UK has been sparse, in a recent study using a Scottish prison sample, Cooke, Michie and Ryan (2001) reported large correlation coefficients ranging from .70 to .92 for the HCR-20 total score and subscales.

Validity

Face

Face validity refers to how the test appears to the examinee. The HCR-20 demonstrates face validity, as the items appear relevant and logical to the violence risk assessment literature proposed by the authors. Furthermore, the design of the tool clearly highlights that past, present and future factors that relate to violence are considered within the instrument.

Criterion

Concurrent

Concurrent validity is concerned with the degree to which the instrument correlates with another test of the same variable measured at the same time. The concurrent validity of the HCR-20 has been well researched. McNiel, Gregory, Lam, Binder and Sullivan (2003) reported that the HCR-20 total score was correlated with the PCL-R ($r = .61$) demonstrating a moderate concurrent validity. However when correlated with the Violence Screening Checklist ($r = .26$) it demonstrated a poor correlation coefficient. Further, each of the HCR-20 scores also correlated with the PCL-R total score and with the violence screening checklist. Other studies have also demonstrated that the HRC-20 and PCL-R are highly correlated across most of their scales (Claix, Pham & Willocq, 2002). Claix et al. reported that the total, H and C scales from the HCR-20 were all significantly ($p< .01$) and highly (r's $>.4$) correlated with the PCL-R total, Factor 1 and Factor 2 scales. The HCR-20 scale was only correlated at the $p < .05$ level with the PCL-R scales demonstrating r's between .22 and .25. Douglas, Webster and Wintrup (1996) found that the HCR-20 was strongly related to the PCL-R (+.64 with H7 "Psychopathy" removed from analysis) and the Violence Risk Appraisal Guide (+ .54) (VRAG; Rice & Harris, 1995). In addition, the Historical scale correlated with both instruments (+ .61 with the VRAG; +.54 with the PCL-R). However the Clinical scale was not as strongly related to these measures (+.28 with the VRAG; +.47 with the PCL-R).

Additionally, Douglas et al., (1998) found that the HCR-20 correlated with the PCL-R (.61) and with the Brief Psychiatric Rating Scale (.54) (BPRS; Overall & Klett, 1962). It was found that the H scale was highly correlated with the PCL-R while the C and R scales correlated less (.75; .21; .18 respectively). On the other hand, the C and R scale strongly correlated with the BPRS (.63; .59 respectively).

Predictive

The predictive validity of a measure considers the extent to which it is able to predict a particular outcome. The predictive validity of the HCR-20 appears to be varied between studies. In a forensic psychiatric setting, Wintrup (1996) reported that the HCR-20 scores predicted re-admission to forensic hospital (+.38) and subsequent psychiatric hospitalisation (+.45). In a study by Webster, Eaves, Douglas & Wintrup (1997) the predictive validity of the HCR-20 was demonstrated using Receiver Operating Characteristic (ROC) analysis. The Area Under the Curve (AUC) produced by the ROC ranged from .76 (for any and physical violence) to .80 (for violent crime). This shows moderate and high predictive validity as Douglas, Guy and Weir (2006) highlighted AUC values of .70 may be considered moderate to large, and .75 and above may be considered large. Further, odds ratios showed that any individual scoring high on the HCR-20 (above the median) were 6 to 13 times more likely to be violent in the community than individuals who scored under the median. Additionally, Ross, Hart and Webster (1998) examined the predictive validity of the instrument using psychiatric patients in hospital and in the community. It was reported that for inpatient violence, the H scale, C scale, and HC composite produced AUC's with violence that were greater than chance, ranging from .63 to .68 for any type of aggression. In regards to the community phase of the study, for the HCR-20 subscales, AUC's for any aggression to others ranged from .58 (C) to .73 (R) and for HCR-20 total score was .67.

In a more recent study, Dolan and Khawaji (2004) investigated the predictive validity of the HCR-20 total and subscale scores among 70 violent patients discharged to the community. Using medium splits, no significant associations were detected between high and low total scores on the HCR-20 and re-offending (χ_2 = 2.71) or violent re-offending

($\chi_2 = 1.72$). Furthermore, none of the subscales demonstrated significant associations with reconviction, although the number of readmissions was correlated significantly with HCR-20 total score, C scale and R scale ($r = .40$; $r = 26$; $r = .31$ respectively) but not H scale. The study also used ROC analysis, the AUC for the HCR-20 total scale for readmission (.85). AUC values were also significant for self/collateral reports of violence (.76). Daffern and Howells (2007) examined the prediction of imminent aggression and self harm in personality disordered patients in a high security hospital using the HCR-20 clinical scale. The results revealed modest predictive validity, significantly better than chance for both the prediction of imminent self harm and aggression (.66; .63, respectively).

Content

Content validity refers to an instrument's ability to include or represent all of the content of a particular construct. The development of the HCR-20 can claim excellent content validity. Since its development by Webster et al. (1995) the HCR-20 has evolved from reviews of the scientific, professional and legal literatures and reflects common sense practice as well as the findings of empirical research (Hart, 2001). The HCR-20 is the most popular reliable and valid violence risk assessment by structured professional judgement. It provides a set of guidelines for use by practitioners in their assessment of factors regarded as relevant to violent behaviour in male and female offenders and patients with a history of mental health needs. By considering the HCR-20 and the literature in which it sits, it appears to demonstrate that it certainly measures all aspects of violence risk factors.

Normative Data

Normative data for the HCR-20 has not been reported by Webster et al., (1995) in the initial technical manual of the HCR-20. However they have collected and provided normative data concerning the prevalence of risk factors in various samples including civil, forensic psychiatric patients and correctional offenders in the revised version (Webster et al., 1997).

There are several limitations associated with the normative data provided for the HCR-20. Firstly, the authors have failed to provide appropriate norms for non-criminals. Further, there is no information available with regards to the distribution of the HCR-20 scores in the general population. Secondly, the standardisation sample of the HCR-20 primarily includes North American forensic populations (Belfrage, 1998), which raises questions about the cross cultural generalisability of the HCR-20 to other populations. Thirdly, the vast majority of research carried out on the HCR-20 has been conduced in North American populations, further limiting the applicability of the HCR-20 to other populations. However, the HCR-20 has been the subject of considerable recent research in Western European populations. Although, there has been an increase in research in the UK (Dowsett, 2005) there still remains a lack of validation research with samples within the United Kingdom (Dolan & Khawaja, 2004).

Limitation

In addition to the above, there are several other limitations associated with the HCR-20 which will be briefly highlighted. Firstly, there is a lack of peer reviewed validation research conducted on the HCR-20 in British samples (Dolan & Khawaja, 2004). Secondly, the instrument is costly to clinicians in terms of time and effort and can only be use by trained individuals who have sufficient knowledge of psychometric methods and clinical practice and theory. Furthermore, it requires an extensive search of clinical files and collaborative information which may often prove to be a tiresome exercise.

Additionally, there is a lack of detailed item-analytic studies on the HCR-20 which would be useful in understanding the properties of each item (Witt, 2000). Furthermore there are some concerns regarding the scoring of the 'psychopathy' item of the HCR-20. This item is scored using the individual's score on the PCL-R, however it needs to be noted that the PCL-R factor 2 which considers anti-social lifestyle is similar to some items of the HCR-20 including employment problems and relationship instability etc. Therefore it appears

that the HCR-20 is double counting these items which will affect an individual's scores (Witt, 2000).

Lastly, the authors of the HCR-20 fail to consider the ethical issues of using the HCR-20, in particular in forensic settings, this includes the ways in which the findings of a risk assessment are communicated to colleagues and subject of that assessment. Such matters need to be given consideration in the future (Logan, 2003).

Conclusions

The development of the HCR-20 Violence Risk Assessment Scheme has assisted mental health, forensic and legal professionals in ensuring that their evaluations of violence risk assessment is adequately comprehensive, reliable and thorough. Although not a formal psychological test the HCR-20 has good psychometric properties according to classical test theory (Kline, 1986). This review has demonstrated the HCR-20 has good internal reliability, with alpha coefficients exceeding .70. In addition, the tool has moderate to high validity, in particular correlates well with other measures of violent risk (e.g. PCL-R) and is significantly predictive of institutional and community violence in forensic populations. However, its lack of normative data especially in regards to UK populations and other cultures calls into question its generalisability within these populations. Therefore, large standardisation samples will be needed in the future to highlight the applicability of the HCR-20 to particular populations.

The use of the HCR-20 in clinical, forensic and research literature has grown over the years, in line with the development of literature regarding risk assessment and management. Despite some apparent shortcomings of the HCR-20, the instrument remains the best known and researched, empirically based guide to risk assessment. It is widely used within forensic and clinical settings and has considerable implications for the assessment and management of violence for individuals within criminal justice and health systems. Therefore there seems little doubt that it will continue to be used as a reliable and valid measure of violent risk. Furthermore, with the increase use of the HCR-20 as a routine assessment in many forensic settings, and being used to aid decision making (e.g.

probationary leave, parole decision), it is essential that researchers continue to assess and improve its applicability and its psychometric properties in the future.

CHAPER THREE

A prospective examination of the predictive validity of the HCR-20 in a Community Forensic Mental Health Service.

Abstract

This study aimed to prospectively examine the predictive validity of the HCR-20 Risk Assessment Scheme in a UK sample. Participants were 47 males on the caseload of the Leicestershire Community Forensic Mental Health Service. All participants were assessed using the HCR-20 Risk Assessment Scheme. File reviews determined outcome measures which were violent incidents and re-offending data that occurred after the completion of the HCR-20 risk assessments. AUC analysis indicated that the HCR-20 total score (.93) and H scale (.84) had predictive accuracy above that of the C scale (.75) for future re-offending. It was found that the C scale (.75) was also a significant predictor of future re-offending in the present sample. The R scale did not demonstrate significant predictive accuracy for future re-offending in the present sample, although the AUC was found to be above chance value ROC analysis indicated that the HCR-20 total score (.93) and H scale (.84) have high predictive validity above that of the C scale (.75) for future re-offending. However the C scale (.75) was also a significant predictor of future re-offending in the present sample. The R scale did not demonstrate significant predictive accuracy for future re-offending in the present sample, although the AUC was found to be above chance value. This study offers further knowledge and understanding on the risk assessment of violence using the HCR-20 Risk assessment Scheme in a UK community forensic sample.

Introduction

Predicting future risk of violent behaviour in mentally and personality disordered individuals has proven to be a difficult task for professionals over the years (Dolan & Doyle, 2000). However, since the development of structured tools that aid clinical judgement, there has been a significant improvement in the accuracy of the prediction of violent recidivism (Stone, 2002). This has been vital since violence risk assessment and management are key components of clinical practice, in particular in forensic services.

With advances in research and increased knowledge and understanding regarding the importance of both clinical and actuarial risk assessment methods, professionals (e.g., Douglas, Webster, Eaves, Wintrup & Hart, 1996; Webster, Douglas, Eaves & Hart, 1997) have developed instruments which incorporate a composite of empirical knowledge and professional expertise. This approach aims to recognise the importance of both static actuarial factors, as well as dynamic risk management factors that need to be taken into account in the risk assessment of individuals (Belfrage & Douglas, 2002). Such risk assessment tools tend to follow a structured clinical judgement model, in that they promote systematic data collection based on sound scientific knowledge, as well as providing flexibility in the assessment. One such tool that has drawn considerable attention from researchers in predicting future risk, is the Historical, Clinical, Risk Management-20, Risk Assessment Scheme (HCR-20; Webster, Douglas, Eaves & Hart, 1997). The HCR-20 has been designed for the assessment of future violence in adult offenders with a violent history and/or a mental disorder or personality disorder. The tool consists of 20 items, divided into three subscales; Historical scale, Clinical scale and Risk Management scale that relate to risk factors in the past, present and future.

Since the development of the HCR-20, there has been an expanding collection of studies (e.g., Brown, 2001; Claix, Pham & Willocq, 2002; Ross, Hart & Webster, 1998) which have examined the tools reliability and validity in various clinical and forensic settings. Research (e.g. Fujii, Tokioka, Lichton & Hishinuma, 2005) has indicated that the HCR-20 demonstrates good validity for predicting violence for psychiatric patients (Gray, Hill, McGleish, Timmons, MacCulloch & Snowden, 2003) as well as criminal violence in the

community (Douglas, Ogloff & Nicholls, 1999). More importantly, research has highlighted that the dynamic or changeable indicators of violence as indicated by measures such as the HCR-20 can predict violence re-offending when controlling for static or historical factors (Bjorkley, 2002; Quinsey, Coleman, Jones & Altrows, 1997). However, many of these studies have been conducted outside of the UK, and therefore there is a question surrounding the generalisability of the findings to UK samples.

Defining Violence and Risk Assessment

The term violence has been widely used by researchers in the area of psychology and behavioural sciences, with many different definitions of violence being offered by professionals. Given that violence is the key feature of risk assessment, it is surprising that the definition of violence has received little attention compared to other facets of risk assessment research and that no one definition of violence has been established. Definitions range from vague descriptions such as, violence being seen as extreme acts of aggression, the anti-social manifestation of aggression to wider definitions such as identifying violence as the exercise of physical force as to injure or damage persons or property (Archer & Browne, 1989).

In defining violence, it has become apparent that some amount of controversy still surrounds an efficient definition of the term. Despite the usefulness of many definitions, most of them have often neglected assumptions about the nature and origins of violence. In addition, the definition of violence is often loosely used, and many definitions have betrayed the dependence of the identification of violence on the attributions of the observer (Blackburn, 1993).

For the practical purpose of this study, the definition of violence offered by Webster, Douglas, Eaves and Hart (1997) in the professional manual of the HCR-20 will be considered. The authors have highlighted that violence is "actual, attempted, or threatened harm to a person or persons," (p. 24). Furthermore, threats of harm must be clear and unambiguous. In addition, behaviour which induces fear in the average person is also seen as violence. All acts which are serious enough to result in criminal sanctions

should also be considered violent. Lastly, the authors also state that all sexual assaults should be considered violent behaviour. Although this definition of violence appears to provide a complete picture of the term, it is important to note there are alternative definitions, and as Webster, Douglas, Eaves and Hart have identified, it is not overly inclusive, nor exclusive in defining violent behaviour. It is an intentionally broad definition which permits exploration of differing severities and forms of aggressive, violent and antisocial behaviours.

Violence risk assessment has been defined by Hart (1998) as "the process of evaluating individuals to characterize the likelihood they will commit acts of violence and develop interventions to manage or reduce that likelihood," (p.356). Further, a similar definition of risk assessment has been proposed by Kropp, Hart and Lyon (2002) who view risk assessment as the process of speculating in an informed way about the aggressive acts a person may commit and determining the steps that should be taken to prevent those acts and minimise their negative consequences. Risk assessment has been considered as a process, indicating a continuing assessment procedure rather than a single application. Therefore, it is an ongoing assessment, review and re-assessment procedure.

The predictive validity of the HCR-20

As highlighted previously, there has been a considerable amount of research that has examined the predictive validity of the HCR-20 Risk Assessment Scheme. Much of the research into the predictive validity of the HCR-20 and indeed other risk assessment tools have used Receiver Operating Characteristic (ROC) Analysis and results have generally been reported in terms of the statistical indexes that ROC produces. ROC measures the area under the curve (AUC) and has been recommended in the area of violence risk assessment prediction because it is less dependent on the base rate of the criterion variable (violence) in the sample, than are traditional measures of predictive accuracy (Rice, 1997). The AUC of the ROC graph is taken as an index for interpreting the overall accuracy of the predictor. For example, an area of .75 means that there is a 75% chance that an actually violent person will score above the cut-off for violence on the predictor,

and an actually non-violent person will score below the cut-off. AUC values of 0.70 may be considered moderate to large, and .75 and above may be considered large.

Previous research examining the validity of the HCR-20 has produced mixed findings. In a civil psychiatric setting using 100 patients from a short term psychiatric inpatient unit McNiel, Gregory, Lam, Binder and Sullivan (2003) found AUC's of .56 for the H scale, .77 for the C scale and .58 for the R scale. The researchers highlighted that the C scale of the HCR-20 was shown to be an important independent predictor of short term inpatient physical violence. Dernevik, Grann and Johansson (2002) considered violent behaviour in 54 mentally disordered offenders admitted to a forensic hospital in Sweden. It was found that the HCR-20 total score was moderately predictive (AUC=.68) for inpatient violence. For community violence reconviction data showed that the HCR-20 total was largely predictive (AUC=.84), with the C scale showing the highest AUC of the subscales at .79. Ross, Hart, Eaves and Webster (2001) demonstrated the predictive validity of the HCR-20 for community violence in a sample of a 103 released forensic patients. The relationship between "any aggression" and HCR-20 total score was .76, and for H, C and R it was .60, .74, .75 respectively.

Much of the research considering the predictive validity of the HCR-20 has been conducted within North American, Canadian and more recently European populations. One of the limitations of many of the studies that consider the predictive validity of the HCR-20 is that they employ a retrospective design. The main shortcoming of such a design is that it is hard to replicate studies in clinical practice, mainly because only client files are used to gather information. Furthermore, in most cases, raters are not clinicians but researchers who are perhaps more familiar with attaining good reliability and therefore are more likely to produce better results than clinicians (Philipse, Koeter, Van Der Staak, & Van Den Brink, 2005). Only a limited number of studies have examined the predictive validity of the tool in UK samples. Grevatt, Thomas-Peter and Hughes (2004) conducted a retrospective study to examine the predictive validity of the HCR-20 H and C scales in a sample of 44 male inpatients of a UK secure forensic facility. It was found that HC composite did not have predictive accuracy for inpatient violence that was

greater than chance (AUC=.56), however the AUC value for the C scale alone was larger (AUC=.72). In another UK study, Dolan and Khawaja (2004) investigated the predictive validity of the HCR-20 total and subscale scores among 70 violent patients discharged to the community. The AUC values were found to be significant for self/collateral reports of violence (AUC=.76) and re-offending (AUC= .71). Doyle, Dolan and Mc Govern (2002) considered the validity of the H scale of the HCR-20 in 87 adult mentally disordered patients in a medium secure unit. It was found that the AUC produced for the H-10 total score ranged from .70 for any and physical violence, to .66 for physical assault against a person or any violence resulting in injury to a person.

In a prospective study Macpherson and Kevan (2004) investigated the predictive validity of the tool in a sample of 93 male inpatients at a high secure forensic mental health setting in the UK. It was found that the HCR-20 total score (.64) and C scale (.72) had predictive validity above that of the H (.59) and R scale (.56) in predicting any violence. Gray, Hill, McGleish, Timmons, MacCulloch and Snowden (2003) prospectively investigated the predictive validity of the HCR-20 total, H and C scale in a sample 34 mentally disordered offenders admitted to one of two medium secure hospital units in the UK. They considered the predictive validity of the tool in relation to three categories of violence, verbal aggression, physical aggression and violence to property. It was found that the Historical and Clinical composite, in addition to the H and C scales were predictive of the three categories of violence (AUC=.79, .83). Dowsett (2005) evaluated the predictive validity of the HCR-20 for the case load (n= 47) of an inner city community forensic team in the UK. Over the follow up period of the research eight individuals were charged or convicted of a violent offence. Comparison of the HCR-20 mean score of these eight individuals (mean score 29.4) with the remaining 39 individuals in the sample (mean score 21.2) shows a significant result (p<0.05).

Most of the studies described in the literature are conducted in non UK samples, therefore there is a need for additional studies in UK samples which adopt prospective methodology. Furthermore, previous studies have mainly been conducted using in-patient samples. This study aims to prospectively examine the predictive validity of the HCR-20

in a UK sample of patients under the care of a community forensic mental health service. Specifically the ability of the HCR-20 total scores and individual sub scale scores to predict future acts of violence are tested.

Method

Setting

The setting for this study is a regional community forensic mental health service. The service provides forensic community care for individuals with mental health difficulties who are involved in the Criminal Justice System. To fulfil the criteria of the service, individuals must have an identifiable mental illness, including alcohol and substance related mental illness or dual diagnosis. And the individual must be at significant risk to others associated with his/her mental illness that cannot be safely managed without the intervention of a forensic service.

The regional community forensic mental health service began utilising the HCR-20 as part of their routine risk assessment procedure in June 2005.

Sample

All individuals on the caseload of the Community Forensic Mental Health Service that were assessed using the HCR-20 Risk Assessment Scheme were included in the study. The sample consisted of 47 adult males. The mean age of participants was 35.8 (SD=8.18) years. The majority of the sample of 47 participants were white British (n= 35, 74.5%), with 7 (14.9%) being of black Afro-Caribbean and 5 (10.6%) being of an Asian ethnicity. Twenty four patients had a diagnosis of psychotic illness (51.1%) with 4 (8.5%) patients without a diagnosis at the time of data collection, 4 (8.5%) diagnosed with schizo-effective, 7 (14.9%) Bipolar, 3 (6.4%) delusional disorder and 5 (10.6%) participants had a diagnosis of personality disorder.

Measure

The HCR-20 Risk Assessment Scheme (Webster, Douglas, Eaves & Hart, 1997) is a tool that assesses violence risk using 20 risk factors for violent behaviour. It uses three scales which capture the past (historical), present (clinical) and future (risk management) aspects of violence risk.

The 10 historical items evaluate previous antisocial and violent behaviour and mental disorders. The five clinical items assess clinical features relevant to violence risk, and the five risk management items assess how individuals will adjust to future circumstances. Each of the 20 items are scored on a three point scale (0,1,2) with 0 indicating that the item is definitely absent, 1 indicating that the item is possibly present or present in a less serious form, and a score of 2 indicating the item is definitely present or present in a more serious form. The HCR-20 total score ranges from 0-40. The HCR-20 also provides three subscales scores for the H, C and R items ranging from 0-20, 0-10 and 0-10 respectively.

The HCR-20 has acceptable inter-rater reliability and internal consistency (Douglas, Guy & Weir, 2005). For a full description of the HCR-20's psychometric properties refer to the critique of the HCR-20 in chapter 4 of this thesis.

Table 1: Items in the HCR-20 risk assessment scheme

Historical (10)	Clinical (5)	Risk management (5)
H1 Previous Violence	C1 Lack of Insight	R1 Plans Lack Feasibility
H2 Young Age at First Violent Incident	C2 Negative Attitudes	R2 Exposure to Destabilisers
H3 Relationship Instability	C3 Active Symptom of Major Mental Illness	R3 Lack of Personal Support
H4 Employment Problems	C4 Impulsivity	R4 Noncompliance with Remediation attempts
H5 Substance Use Problems	C5 Unresponsive to Treatment	R5 Stress
H6 Major Mental Illness		
H7 Psychopathy		
H8 Early Maladjustment		
H9 Personality Disorder		
H10 Prior Supervision Failure		

Procedure

All HCR-20s completed from June 2005 (when tool was first implemented within the service) until Sept 2007 were considered for this study. There was a total of 58 HCR-20s completed. However, of these 11 were not adequately completed (e.g. incomplete rating for items, items not completed). The incomplete HCR-20s were therefore removed from the study, leaving 47 HCR-20s that could be included in the study. The HCR-20s had been completed by seven mental health professionals (social workers, psychologists and community psychiatric nurses) who were involved in the clinical case management of the individual. They had all been trained in the use of the HCR-20 risk assessment tool.

The study had a prospective design, whereby the HCR-20 assessment was completed prior to any incidents of violence being observed and recorded. Data on violent incidents and recidivism data (after risk assessment) were collected from file reviews by the researcher. The researcher used the definition of violence offered by the HCR-20 authors to identify violent incidents from client files. These included any physical aggression, verbal aggression, property violence or sexually inappropriate behaviour. To obtain inter-rater reliability, an assistant psychologist also identified violent incidents from 5 individual random files. The percent of agreement between the raters was correct one hundred percent. Although this is a somewhat crude measure and results should be considered with some level of caution, it does give an idea of how much agreement existed between the raters. No direct contact with the individuals or staff was involved in the collection of this information.

The scores of all 47 individuals on each item of the HCR-20 and HCR-20 total score were recorded. The follow up period began the day immediately following the completion of the individuals HCR-20 and continued until the time of data collection completion (June 2008) or until the day an individual was discharged from the service (range of time 1- 23 months).

Treatment of data

All statistical analyses were conducted with use of SPSS, version 16. The distribution of data was examined using the Kolmogorov-Smirnov test. The data met the assumptions for parametric tests.

A priori power analyses using G Power program indicated that the sample size needed in order to obtain a medium effect size (0.5) (Cohen, 1988) for this study is 34.

Independent samples t-test is used to examine whether there is any significant difference between the re-offenders and non re-offenders on the total score of the HCR-20. Mann-Whitney test is used to see whether there are any significant differences between the groups on the subscales of the HCR-20. Mann Whitney test is used because the subscales of the HCR-20 are ordinal data.

The predictive validity of the instrument was established using Receiver Operating Characteristics (ROC) analyses. As described previously, the major advantage of this method is its insensitivity to base rates. The ROC analyses result in a plot of the true positive rate (sensitivity) against the false positive rate (1 - specificity) for every possible cut off score of the instrument. The Area Under the Curve (AUC) can be interpreted as the probability that a randomly selected re-offender would score higher on the instrument than a randomly selected non offender. In general, AUC values of .70 and above are considered moderate, and above .75 good (Rice & Harris, 1995).

Further analysis looking at the predictive validity of the HCR-20 was conducted using Cox regression. The Cox regression model uses the hazard function to determine the influence of predictor variables on a given dependent variable. The hazard function is an estimate of the likelihood of failure at a given point in time (SPSS, 1999) therefore this model is designed for analysis of time until an event. In this study the event or failure is the time until re-offence.

Results

Descriptive statistics for total sample HCR-20 scores.

Table 2 shows the sample mean and standard deviations for each total HCR-20 subscale, each individual item and total HCR-20 score.

Table 2: Mean HCR-20 scores for total, subscales and individual items (n=47).

Item	Mean	SD
Historical scale		
H1 History of violence	1.94	0.32
H2 Age at first violence	1.32	0.91
H3 Relationship history	1.68	0.63
H4 Employment history	1.62	0.71
H5 History of substance misuse	1.85	0.47
H6 Previous mental illness	1.55	0.72
H7 Psychopathy	0.60	0.65
H8 Early maladjustment	1.47	0.83
H9 Personality disorder	1.09	0.72
H10 Previous conditional release failure	1.62	0.77
Total H scale score	14.66	2.81
Clinical scale		
C1 Lack of insight	1.64	0.74
C2 Negative attitude	1.60	0.74
C3 Symptomatology	0.83	0.94
C4 Lack of behavioural stability	1.32	0.89
C5 Lack of treatability	1.21	0.93
Total C scale score	6.64	2.97
Risk management scale		
R1 Lack of plan feasibility	1.60	0.77
R2 Access to destabilisers	1.64	0.67
R3 Lack of support	1.21	0.88
R4 Future non-compliance	1.19	0.95
R5 Stress	1.81	0.50
Total R scale score	7.30	2.60
Total HCR-20 score	28.70	6.61

Characteristics of non re-offender and re-offender groups

Of the 47 participants, 10 individuals re-offended and 37 did not re-offend. Independent t-test analyses found no significant differences in terms of age, ethnicity and diagnosis between the re-offenders and non re-offending groups.

Table 3 presents the mean scores for the total HCR-20 score, and subscales, and individual items of the HCR-20 for the non re-offenders and re-offenders.

Table 3: Mean HCR-20 scores for non re-offenders and re-offenders (n=47).

Item	Non Offenders (n=37)		Offenders (n=10)	
	Mean	SD	Mean	SD
Historical scale				
H1 History of violence	1.92	0.36	2.00	0.00
H2 Age at first violence	1.13	0.95	2.00	0.00
H3 Relationship history	1.59	0.69	2.00	0.00
H4 Employment history	1.54	0.77	1.90	0.32
H5 History of substance misuse	1.84	0.50	1.90	0.32
H6 Previous mental illness	1.65	0.68	1.20	0.79
H7 Psychopathy	0.48	0.61	1.00	0.67
H8 Early maladjustment	1.35	0.89	1.90	0.32
H9 Personality disorder	1.82	0.73	1.30	0.67
H10 Previous conditional release failure	1.59	0.80	1.70	0.67
Total H scale score	14.05	2.81	16.90	1.29
Clinical scale				
C1 Lack of insight	1.54	0.80	2.00	0.00
C2 Negative attitude	1.49	0.80	2.00	0.00
C3 Symptomatology	0.81	0.94	0.90	0.99
C4 Lack of behavioural stability	1.18	0.90	1.80	0.63
C5 Lack of treatability	1.05	0.94	1.80	0.63
Total C scale score	6.14	3.11	8.50	1.27
Risk management scale				
R1 Lack of plan feasibility	1.49	0.84	2.00	0.00
R2 Access to destabilisers	1.54	0.73	2.00	0.00
R3 Lack of support	1.89	0.88	1.30	0.95
R4 Future non-compliance	1.13	0.95	1.40	0.96
R5 Stress	1.76	0.55	2.00	0.00
Total R scale score	6.92	2.73	8.70	1.34
Total HCR-20 score	27.08	6.49	34.70	1.95

Independent t-test analysis indicated that there is a significant difference between the re-offenders and non re-offender on the total score of the HCR-20 ($t(44) = 6.19$, $p < 0.0001$).

Mann-Whitney analyses was conducted on the three subscales (H, C & R) of the HCR-20 to test differences between the re-offending group and the non re-offending group. The correlational effect sizes are reported below.

It was found that the non re-offenders (Mean Rank= 20.65) differed significantly (p= .001) in their scores on the Historical subscale compared to the re-offender group (Mean

Rank= 36.40; U = 61.00, *P* <0.01, r = .47). With regards to the C scale the two groups differ significantly (p= .012) on their scores on the clinical subscale of the HCR-20. The re-offender group has the highest mean rank (33.40) compared to the non re-offender group (21.46) (U = 91.00, *P* <0.05, r = .36). There was no significant difference between the mean of the Risk Management scale scores of the re-offending and non re-offending group. U= 117.00, P>0.05, r = .26.

Predictive validity of the HCR-20
ROC Analyses

The results of the ROC analyses are presented in Table 4. From the analyses it is evident that the AUC was highest for the HCR-20 total score and lowest for the R subscale. The H scale has good predictive validity and the C scale has moderate to large predictive validity for future re-offending. The HCR-20 total score significantly predicted violent re-offending above the three subscales, AUC .93, *p*<.001. The H scale is also a significant predictor of future re-offending, AUC .84, *p*<0.01. The C subscale of the HCR-20 also significantly predicted violent re-offending, AUC .75, *p*<0.05. The R scale of the instrument produced a non-significant result and did not demonstrate a significant predictor of violent re-offending.

Table 4: AUC's for total and subscales of the HCR-20.

Item	Area	Std. Error	Asymptotc Sig.	Asymptotic 95% Confidence Interval	
				Lower Bound	**Upper Bound**
HCR-20 Total	.93	.036	.000*	.861	1.002
H Scale	.84	.062	.001**	.713	.957
C Scale	.75	.076	.015***	.606	.902
R Scale	.68	.081	.077	.524	.843

Significance level * p<.001, ** p<.01, *** p<.05

AUC analysis was further conducted on the individual items of HCR-20 to indicate whether any of the individual items are associated with future re-offending within this community population. Results indicated that item H2 (young age at first violent incident), item H7 (psychopathy) and C5 (unresponsive to treatment) had AUC values above 0.7.

Cox regression

Table 5: Cox regression analysis using the total and subscales of the HCR-20 to predict violent re-offending.

Variables	B	SE	wald	Exp(B)	95% CI for Exp (B)	
					Lower	Upper
HCR-20	.261	.100	6.755*	1.298	1.066	1.581
H Scale	.428	.180	5.669*	1.534	1.079	2.182
C Scale	.394	.205	3.681	1.483	.992	2.218
R Scale	.191	.166	1.327	1.210	.875	1.675

Significance level * p<.05

Cox regression analyses indicated significant differences on the total and H scale of the HCR-20 between those who did not re-offend and those who did and are therefore significant predictors of violent re-offending. The findings indicate that when Cox regression was used to examine time at risk when discharged in the community, the H scale and total of the HCR-20 outperformed the C and R scales.

Discussion

This study aimed to prospectively examine the predictive validity of the HCR-20 risk assessment tool in a sample of UK patients under the care of a community forensic mental health service. Specifically, the study tested the ability of the HCR-20 total and subscale scores to predict future acts of violence in the community. This research is needed as there are a limited number of studies examining the predictive validity of the HCR-20 in UK samples. In addition UK studies that have investigated this phenomenon are based mainly in inpatient settings. Due to this it is difficult to compare the results of the present study with other reported results.

In this study statistical analyses indicated that a significant difference was found between the non re-offending and re-offending groups on the H and C scale of the HCR-20, such that the re-offending group had higher scores. No significance difference was found between the two groups for the R scale of the instrument. AUC analysis indicated that the HCR-20 total score (.93) and H scale (.84) had predictive accuracy above that of the C scale for future re-offending. Although the C scale (.75) was also a significant predictor of future re-offending in the present sample. The R scale did not demonstrate significant predictive accuracy for future re-offending in the present sample, although the AUC was found to be above chance value. Cox regression indicated that the total and H scale of the HCR-20 were significantly predictive of violent re-offending and outperformed the dynamic C and R scales within this sample.

Research by Dowsett (2005) provided some preliminary norms for the use of the HCR-20 in a case load of an inner city community forensic team in the UK. The mean HCR-20 subscales and total score in the present study were found to be generally comparable with those reported in the Dowsett study. The present study provided slightly higher mean scores for all the subscales and total score of the HCR-20. Further, comparison of the mean score of the re-offenders and non re-offenders in both the present study and the Dowsett study were found to be significant ($p<.01$, $p<.05$ respectively). The Dowsett study does not report the analyses for the subscales of the HCR-20 and therefore no comparisons can be made.

The present study is somewhat consistent with a study conducted by Gray, Taylor and Snowden (2008). In the Gray et al. study, 887 male patients were followed for at least two years after being released into the community from a medium secure unit. The HCR–20 was completed using only pre-discharge information, violent and other offending behaviour post-discharge was obtained from official records. The HCR–20 total score was found to be a good predictor of both violent and other offences following discharge. The historical and risk sub-scales were both able to predict offences, but the clinical sub-scale did not produce significant predictions. The predictive efficacy was highest for short periods (under one year) and showed a modest fall in efficacy over longer periods (5 years). The results provide a strong evidence base that the HCR–20 is a good predictor of both violent and non-violent offending following release from medium secure units for male forensic psychiatric patients in the UK.

The findings of this study are to some degree also consistent with findings reported by Dolan and Khawaja (2004). They examined the predictive validity of the HCR-20 in relation to post-discharge outcomes in 70 male medium secure patients who had a history of violent offending. Relationships between post-discharge outcomes (reconviction, readmission, self/collateral reports of violence) over a minimum two-year follow-up period were rated blind to the HCR-20 score. The HCR-20 score did not predict reconviction, but was a significant predictor of readmission and self/collateral reports of violence. Although reconviction was not predicted using the HCR-20, the instrument was a significant predictor of self and collateral reports of violence which is the outcome measure used in the present study.

Dernevik, Grann and Johansson (2002) examined the predictive validity of the tool for community violence reconviction, and found that the HCR-20 total was largely predictive (AUC=.84), with the C scale showing the highest AUC of the subscales at .79. This result is consistent with the results reported for the present study in that the HCR-20 score had the largest predictive validity. Although the H scale showed the highest AUC of the subscales, the C scale showed AUC value similar to the Dernevik et al. study. Ross, Hart, Eaves and Webster (2001) demonstrated the predictive validity of the HCR-20 for

community violence in a sample of a 103 released forensic patients. The relationship between "any aggression" and HCR-20 score was .76, and for H, C and R it was .60, .74, .75 respectively. This study again demonstrates predictive validity for the HCR-20 total score and C scale as consistent with the present study.

Further ROC analysis indicated that a number of the HCR-20 individual items showed a significant association with future re-offending. H2 (young age at first violent incident) suggests that the younger the person was at the time of first known violence, the greater is the likelihood of subsequent violent conduct (Swanson, 1994). Based on this finding it can be hypothesised that factors such as H2 can help to determine the nature and seriousness of any recidivistic violence, although clinicians must not make naïve assumptions that the person's recidivistic violence will mirror past violence. However this item can be used to assess the likelihood or seriousness of future offending and if this is found to be high, the person should receive more intensive services and be deemed a high priority for those services (Harris, Rice & Cormier, 1991). Within this study H7 (psychopathy) was also found to be associated with re-offending. In terms of case management, such items must be held in mind throughout while interventions are being planned and carried out. Further, conditions such as psychopathy can abate or change form at least in the unusual individual case (Webster, Douglas, Eaves & Hart, 1997). Item C5 was also shown to be associated for future violence. Therefore based on this finding it can generally be hypothesised that being unresponsive to treatment designed to ameliorate criminal, psychiatric, psychological, social or vocational problems is associated with violence in this community sample. This factor is important in allowing clinicians to see whether the person possesses the kind of skills needed to cope with present and future social, vocational and interpersonal demands.

Limitations and implications for future research

Due to the limited number of studies examining the predictive validity of the HCR-20 in UK samples, the findings of the present study contribute to the empirical knowledge regarding the predictive validity of the instrument in a UK community sample. However, there are a number of shortcomings that limit the findings of the present study which need to be acknowledged.

1. The sample size of the research was smaller than would be desired and therefore only representative of this small group of patients under the care of the community mental health team. Further, due to the small sample size differences between the groups (re-offenders and non re-offenders) may not be valid. A replication of this study using a larger sample of participants can therefore help confirm that the current findings are not specific to this sample. Furthermore, the sample of patients used in the research was not from an ethnically diverse group, as the majority of the patients were from a white British ethnic group. Given the over representation of this ethnic group, the current study needs to be replicated with a larger, more generalisable group of patients. This is highly important given that past research has shown that although there is support for the cross cultural validity of the HCR-20, there are also unique cultural differences identified in prediction of violence risk (Fujii, Tokioka, Lichton & Hishinuma, 2005).

2. There was no set length of follow up time within this study which may introduce bias. For example, if a patient is followed up for a longer length of time compared to another patient then it could be said that they had more opportunity to commit a violent act. However, it needs to be highlighted that data analysis showed that there was no significant difference between the mean length of follow up between the group of re-offenders and non re-offenders. Further the varying time of follow up could be seen as a more realistic reflection of the use of risk assessment tools in everyday clinical practice. For example, although the HCR-20 has been utilised as the routine risk assessment tool at the regional community forensic mental health team, it was apparent that this protocol was not being followed consistently. Therefore, it was more likely that the team would complete the HCR-20 on a patient who was perceived as higher risk. This limitation

therefore highlights the need for the consistent practice of the completion of the HCR-20 or other risk assessment tools for all patients if the tool is used as part of the routine clinical practice within the team. Furthermore future research should allow for a set amount of follow up length which will combat the above bias.

3. This study employed a prospective study design. The advantages of this design have been considered above, however there are also a number of limitations associated with this design that needs to be noted. The main problem is that prospective predictive research will be hampered by the clinical goals of risk assessment. For example, it is suggested that when clinicians complete the HCR-20 risk assessments it is likely that the outcome influences decisions concerning leave, entry into treatment or termination of treatment. Therefore if a patient is found to be high risk they are more likely to be readmitted to hospital and therefore affecting the measured validity of the tool (de Vogel, de Ruiter, Hildebrand, Bos & van de Ven, 2004).

4. The re-offending data collected in this study was limited to one source, this being file records and information collected by clinical staff which increases the likelihood of bias being introduced in the study. It could be possible that studies utilising one form of outcome source may underestimate the number of violent incidents, particularly verbal aggression which may not get recorded by clinical staff. It would be recommended that multiple sources of outcome measures such as self report and systematic collateral report sources should be included in order to provide a more robust outcome measure. The McArthur study (Monahan, Steadman & Silver et al., 2001) was designed to address such limitation which is common in risk assessment studies. They addressed the problem of weak violence markers by using multiple measures to estimate the occurrence of violence to others in the community.   The measures included patient's self report, the report of collateral information (usually a family member), arrest records, and mental health hospital records. A further shortcoming associated with this is the fact that studies in the area of risk assessment tend to differ on the outcome measure that they utilise making it difficult to compare results of studies.

5. Another factor which further limits the comparison of research studies in this area is the definitions of violence used in various studies. As mentioned within the introduction section of this study by considering the growing literature on the area of violent risk assessment and the prediction of violent re-offending it has become apparent that definitions of violence in studies differ considerably. Therefore, if risk assessment tools and the literature within this area are to be compared, it is essential that a common definition of violence should be employed.

Clinical implications

The findings of this study demonstrate that the historical factors of the HCR-20 are highly predictive of future re-offending within this limited population. The historical factors that are indices of past behaviour, for example, history of violent behaviour have all been shown in numerous studies to predict violence, particularly within personality and mentally disordered individuals (McNiel & Binder, 1995). Other historical factors may be rooted in the individuals past, as above cannot be changed. For example, a history of substance abuse is a strong marker for violence (Swanson, 1994). Further, having a diagnosis of personality disorder elevates the odds for violence (Douglas, Ogloff & Nicholls, 1997). Another important historical risk maker which is relatively stable over the life span is psychopathy and there has been many studies conducted in support of its relationship with violence and other antisocial acts (Hare, 1998). Furthermore the results of the present study highlight the importance of the clinical scale in predicting future violent acts. This demonstrates support for the dynamic, changeable aspects of an individual which have also been found to predict violence. For example, negative attitudes will probably elevate violence risk (Andrews & Bonta, 1995). Further, whether an individual is amenable to treatment or is resistant to remediation attempts has found to have relevance for violence (Bartels, Drake, Wallach & Freeman, 1991). This study did not find the risk management scale of the HCR-20 to be predictive of future violent re-offending. However did find that the re-offending group scored higher on his scale compared to the non re-offending group. The R scale is highly important in the risk assessment process in that if such factors are targeted, can help to ameliorate risk. For

example if an individual has unfeasible, poorly thought out plans then the likelihood of violence is increased (Estroff & Zimmer, 1994).

Conclusion

The present research offers support for the ability of the HCR-20 risk assessment scheme to predict future acts of violence in a UK sample of mentally/personality disordered males under the care of a community forensic mental health service. The study offers further knowledge and understanding on the risk assessment and management process in UK samples and more specifically outlines the importance of both static and dynamic factors.

CHAPTER FOUR

The impact of the Enhanced Thinking Skills Programme on the cognitive deficits identified in a violent male Prisoner: A Case Study.

This chapter is not available in the digital version of this thesis.

CHAPTER FIVE

Discussion

Discussion

Violence risk assessment and management are key factors for professionals working with violent offenders in clinical and forensic services. This thesis aimed to examine the assessment and treatment of violence in a forensic population with a specific focus on the contribution of dynamic risk factors in predicting violent recidivism.

The conceptual review provided an overview of the development of violence risk assessment approaches. Further, a systematic approach was adapted to examine the predictive validity of dynamic risk factors in predicting violent recidivism. The main objectives were to firstly determine if dynamic risk factors have the ability to predict future violent re-offending and secondly determine if dynamic risk factors are more effective at predicting violent recidivism in differing contexts these being institutional and community violence. The overview of violence risk assessment approaches considered some of the limitations associated with traditional approaches to risk assessment and highlights that the structured professional judgement approach appears to offer the most practical link between empirical knowledge and the clinical practice of violence risk assessment and management. Overall findings from the review indicate that although there is some level of variability between research findings, there is sound evidence for the ability of dynamic risk factors in predicting violent re-offending in both community and institutional settings.

The review outlined several methodological issues associated with the assessment of future violent risk as evident from the studies included in the review. It was found that many of the studies retrospectively considered predictive validity and some of the difficulties associated with this method have been outlined within the review. The studies included in the review varied in the outcome measures used and the varying definitions of violence which have made the findings difficult to compare. Despite such limitations, the review concludes that due to the well established predictive validity of historical risk

factors and the emerging ability of dynamic risk factors in predicting violent recidivism, it appears clear that the most highly valued form of risk assessment is one that incorporates both static and dynamic variables. Further direction for the risk assessment and management field should focus on identifying dynamic factors applicable to the individual and specifying intervention based on relevant dynamic factors in order to reduce risk.

With violence risk assessment, management and prediction being a priority issue and key component in clinical practice, it is paramount that any risk assessment instrument that has been developed, is equipped with valid and reliable psychometric properties. Chapter Two presented a critique of the Historical, Clinical, Risk Management-20, Risk Assessment Scheme (HCR-20; Webster, Douglas, Eaves & Hart, 1997). The critique offered an overview of the tool and its psychometric properties, including reliability and validity. Further, it considered the tools applicability to forensic and clinical settings before going on to explore some of the limitations associated with the use of it. It was highlighted that although the HCR-20 is not a formal psychological test, it has good psychometric properties according to classical test theory (Kline, 1986). It is limited due to the lack of normative data especially in regards to UK populations and other cultures which puts into question its generalisability within these populations. Therefore, large standardisation samples will be needed in the future to highlight the applicability of the HCR-20.

The empirical research study prospectively examined the predictive validity of the HCR-20 risk assessment tool in a sample of UK patients under the care of a community forensic mental health service. Specifically the study tested the ability of the HCR-20 total and subscale scores to predict future acts of violence. The findings indicated that the HCR-20 total score (.93) and H scale (.84) had predictive accuracy above that of the C scale (.75) for future re-offending. Although the C scale was also a significant predictor of future re-offending in the present sample. Further, findings indicated that item H2 (young age at first violent incident), item H7 (psychopathy) and C5 (unresponsive to

treatment) had AUC values above 0.7, showing high predictive validity. Although the R scale of the HCR-20 was not significantly predictive of future re-offending within this sample, the findings indicated that the re-offenders group scored higher on the R scale compared to non-offenders.

Several limitations of the study were outlined including the use of one source of outcome measure and the varying length of follow up. All limitations were addressed and direction for future research highlighted. The study offers further knowledge and understanding on the risk assessment and management process in UK samples using the HCR-20 and more specifically outlines the importance of both static and dynamic factor in particular the historical and clinical risk factors in predicting future acts of violence.

In order to demonstrate the important role of dynamic risk factors in reducing violent re-offending the individual case study evaluates the impact of a Cognitive Behaviour Intervention (Enhanced Thinking Skills Programme) on the cognitive deficits identified in a violent male offender (Client A). The case study found some inconsistencies in the pre and post measures of assessment, however on the whole Client A demonstrated a positive change as identified from the post treatment measures. Although ETS is not a specific violent reduction programme, such interventions are designed to challenge anti-social thinking patterns as well as other personal and temperamental factors such as lack of self control and lack of victim empathy. Such dynamic factors have been found to be indicators of violent behaviour (Hare, 1993) and therefore interventions targeting such factors will aim to reduce future violent behaviour. The case study was limited due to no follow up procedure being adapted in order to see whether such changes were maintained and more importantly whether it reduced the risk of Client A's re-offending. The case study demonstrates the importance of individualised assessment and formulation in order to identify the clients treatment needs. For example the findings of this case study lend support to individualised treatment to address specific client needs in addition to group work programmes which target various dynamic factors.

This thesis has examined some of the main issues relating to the field of violence risk assessment and management in forensic settings. As demonstrated within this thesis the field of violence risk assessment and management has undergone many changes over the decades. One of the major developments has been the use of structured clinical judgement tools such as the HCR-20 which incorporated static and dynamic risk factors in assessing and managing an individual's risk of future violence. The conceptual literature review demonstrated the ability of dynamic risk factors in predicting community and institutional violence. In considering the studies reviewed it is clear that the predictive validity of static factors has been clearly demonstrated in the literature. Indeed the empirical paper further offers evidence for the predictive validity of the static and dynamic factors of the HCR-20. The HCR-20 total, H and C scales were found to be highly predictive of future re-offending. It can therefore be suggested that there is evidence for the contribution of both static and dynamic risk factors in predicting future violence. Chapter Two provides further evidence for the applicability of the HCR-20 in predicting violence re-offending in UK samples. Future research should build on such studies with larger samples and various populations such as within female forensic and clinical populations and address cultural differences in order to further support the generalisability of risk assessment tools such as the HCR-20. The future task for professionals is to integrate risk assessment tools based on the structured clinical judgement approach efficiently into regular clinical practice.

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Appendices

Appendix 1

Consent form

CASE STUDY CONSENT FORM

My name is Mariam Zanganeh and I am completing the second year of my Masters in Forensic Psychology Practise. I will be on placement at HMP Birmingham for 42 weeks and have to complete certain pieces of work, including the case study as part of the Masters requirements.

The Enhanced Thinking Skills (ETS) programme requires each referred individual to complete a semi-structured interview to assess his suitability for the programme. If the individual is found to be suitable for the programme, they are required to complete a set of questionnaires. These questionnaires are then repeated at the end of the programme. Following the programme, the ETS tutors complete a post programme report highlighting the individuals' progress on the programme. The report will be based on the information gathered during the programme.

The purpose of the case study is to assess and document the progress of one of the individuals on the ETS programme. The individual is selected for a number of reasons including motivation to participate in the programme and the nature of their offence. The information gathered and documented for the case study format is strictly for academic purposes. It has no bearing on a participants' sentence and it would remain anonymous, with no name or prison number appearing on the case study.

The case study also requires that some of the individuals' background information (gathered from file information) is included, for example,

- Age
- Sex
- Ethnicity
- Education and employment history
- Family background
- Offence history.

The above information will remain anonymous with no names or prison number on the paperwork. The case study will simply refer to the individual as client A.

Your participation in the case study is voluntary, however your involvement would be greatly appreciated and your willingness to participate would be documented in your file.

Please consider the following;

1. I am attending the Enhanced Thinking Skills programme, and agree to participate in an ETS case study for the purpose of university academic work.

2. I consent to the use of information regarding my background, taken from official records, for the purpose of the case study.

3. I am fully aware that all information, both from the ETS course and official records, presented within the case study will be strictly anonymous, with neither, my name or prison number appearing on any of the paperwork.

4. I understand that I may withdraw from participating in the case study at any time, up until my completion of the programme, and for any reason without any repercussions to myself.

5. Should I be appealing my conviction or sentence, I understand that this case study is not an admission of guilt.

6. I understand that the final case study has no bearing on my sentence beyond recognition for my voluntary participation.

7. I understand that the final case study will be the property of the university in question and will remain anonymous, with no name or prison number appearing on the paperwork.

Consent

Prisoners name: ………………………………………..

Prisoners signature: ……………………………………   Date: …………………

Trainee psychologists name: …………………………….

Trainee psychologists signature: ………………………..   Date: ………………….

Appendix 2

Psychometric battery test

Battery of psychometrics

-Locus of Control

The Locus of Control questionnaire is an 18 item scale measuring the extent to which a person perceives events as being a consequence of their own behaviour and therefore under personal control. In regards to the offender population, it measures the extent to which an inmate perceives responsibility for their own personal problem behaviour.

-The Long Questionnaire

The Long Questionnaire consists of 75 items composed of several personality scales including Eysenck Impulsivity Scale (1978), Gough Socialisation Scale (1960) and Low Self Esteem Scale (Thornton, 1989). All the factors measured by the three questionnaires have been found to be associated with criminal behaviour, for example, Robinson et al (1998) suggested that social skill deficits are likely to result in a higher probability of aggressive behaviour the result of which is likely to be criminal behaviour and criminal convictions.

-Crime-PICS II

This questionnaire measures an individuals attitude towards offending on five dimensions. The measure provides a general score and 5 sub scales on general attitude to offending, anticipation of re-offending, victim hurt denial, evaluation of crime as worthwhile, anticipation of re-offending and problem checklist items.

-Social Problem Solving Questionnaire

In completing this questionnaire, individuals are presented with a problem scenario and a range of possible solutions. The individual is asked to rank the solutions they would use in order of preference. The solutions chosen by the individual are then scored on four measures, assertive problem solving, aggressive problem solving, passive problem solving, and generation of solutions.

-Behavioural Assessment Checklist

The main aim of the behavioural assessment checklist is to consider whether skills learnt within a taught environment, in this case, ETS sessions, can be transferred to an environment that an inmates day to day life takes place e.g. on the wing.

The checklist is a 54 item list that is completed by staff who know the individual well e.g. inmates personal wing officer. The six scales measured on the checklist are belligerence, withdrawal, stress, impulsivity, egocentricity and problem solving.

Appendix 3

Evaluation of assessments

Evaluation of assessment

Advantages of assessment process

The ETS assessment procedure has many advantages in that it uses quantitative and qualitative methods to assess an individuals suitability for the programme. The initial assessment stage involves the use of actuarial risk predictor tools (OASys) to compare the individual to groups of offenders matched in terms of factors such as age and offending history. Based on this information the risk predictor tool provides a score based on estimated risk of reconviction. Although these tools are useful and aid risk judgement, they need to be considered in conjunction with collateral information. The second stage of assessment therefore considers collateral information from the individuals file and data from the OASys to consider possible indicators of cognitive deficits such as poor self management, drug or alcohol problem, poor relationships, history of self harm, poor employment history and poor education. Following the consideration of these dynamic factors, the semi structured interview assesses the individuals cognitive skills and deficits in more detail. The semi structured interviews are mainly conducted and scored by treatment managers and accredited tutors, however, other staff may at the discretion of the treatment manager carry out interviews provided that they observe supervised interviews and demonstrate inter-rater reliability.

By using the above standardised assessment to assess individuals suitability for the ETS programme, the assessment generally provides a reliable and objective method of considering whether individuals lack the targeted cognitive deficits and whether they would benefit from completing the programme.

In regards to the battery of psychometric test administrated pre intervention and for the purpose of this case study, post treatment. All psychometric tests generally have good reliability and validity scores.

Limitations of assessment process

The ETS assessment process also generates certain limitations that may have implications for the reliability and validity of the assessment findings. Although the assessment procedure relies on quantitative and qualitative data, certain considerations need to be made in regards to the high reliance on self report measures. The semi structured interview and the battery of psychometric tests are to varying degrees susceptible to numerous sources of error, for example, the reliance on memory and social desirable responses from the individual. Although it needs to be pointed out that some of the psychometrics do indeed provide a defensiveness item that identifies whether the individual is responding to the questionnaire in a defensive manner.

Appendix 4

Written explanation of functional analysis

<u>Written explanation of functional analysis</u>

<u>5.5.1 Childhood</u>

The information gained about client A's childhood indicates that he did not have a stable and secure childhood. He reports feeling left out at school due to the fact that the majority of the children who attended his school had money and as a result of this he would often steal money from his parents in order to show of to the other kids about having money. As a result of this he felt more included at school, however this also resulted to some major problems with his parents, in particular his father who was often violent towards him because of his bad behaviour. Furthermore, client A reports that his brother was treated better than him and was viewed as the favourite son which often made him rebel against his parents by not listening to them and always getting into trouble.

<u>5.5.2 Adolescents</u>

The above pattern continued in client A's adolescent years when he would often become angry because he did not like feeling that the other children in his school looked down at home due to not having money. His relationship also continued to be under pressure with his parents especially with his father because he would often get into fights at school and misbehave at home. This resulted in his father being aggressive towards him on many occasions. It has been reported that client A was seen by a psychologist due to behavioural problems, however there is no more information regarding this visit.

Client A reports that during a physical education lesson at school, teachers noticed some bruising on his body and as a result of this, contacted social services. Client A reports that because of this he was extremely angry with his father, and therefore wanted to 'get back' at his father and did this by burgling his family home and only stealing his father's belongings.

Following this incident the client reports that his father knew that his belongings had been taken by client A and this resulted in his father being extremely violent towards him. As a result of this client A was taken into care at age 15.

5.5.3 Teenage Years

Whilst accommodated by the local authority, client A reports that he was often getting into trouble for misbehaving, for example he would cause criminal damage, commit crimes and would often get into fights. It appears that client A behaved in this way because he needed to 'fit in' with the other children, most of who were often committing crimes and getting involved in fights. Furthermore client A did not get along with some of the kids that he was living with which again resulted in many fights in the establishment. As a result of his continuous anti social behaviour, client A was often moved from one establishment to another resulting in him not having a stable home or relationship with other children or parental figures.

During this time, client A often felt sad and lonely which resulted from not having any contact with his parents or brother. At this stage he reports that it was his parents decision not to have any contact with him because he was heavily involved in committing offences such as theft, burglary, criminal damage and vehicle offences.

Due to the clients anti social behaviour and involvement in committing offences he spent most of his time in and out of young offender institutions and reports that it was a 'shock to the system' as there was a lot of fighting and violence in the institution.

Client A reports that he began self harming, cutting his arms and legs because he felt overcome with the amount of problems in his life. He states that 'when I use to cut my arm it felt good because it was like opening a tap and letting it all drain away.'

5.5.4 Adulthood

Client A reports that most of his adulthood has been spent in prison as a result of his involvement in committing offences. He reports that use of violence is a normal behaviour for him because he has been subjected to it all his life. He often observed people using violence to get their own way during his time in young offenders institutions and now in adult prisons.

During the time that the client was not in prison he would continue with his criminal offending in order to gain money. He reports that he would mostly commit burglaries and thefts in order to get money which he needed for clothes, going out and drugs. The client reports that his involvement in drugs and alcohol was due to the fact that other people staying at the hostels where he was staying and the majority of his friends were taking drugs and drinking large quantities of alcohol and therefore it became the normal lifestyle. Although at the present time he reports that taking drugs and abusing alcohol was making him feel paranoid and therefore he stopped taking them, he reports being clean for two years.

Client A reports that during his early adulthood he continued to self harm, however he gradually stopped this behaviour because he was getting too many scares on his body which he didn't like. He reports that he has not self harmed for approximately 6 years.

During his previous times in prison the client reports that his mother would often come and visit him and when he was on the outside he visited his father and would now describe the relationship with his father as getting much better with his parents and brother often visiting him at the present prison (HM Birmingham). Furthermore, his plans following his release from prison involve him living at the family address in the future.

Appendix 5

Written formulation

<u>**Written Formulation**</u>

<u>Presenting issues</u>- The main presenting problem for client A is his involvement in anti social criminal behaviour. The pre treatment SSI also indicated (self report) that client A is experiencing problems related to his anger as he does not know how to express his anger in an appropriate manner. He further reported that following his release from prison he may see his victim's friends and family which will cause problems for him in that they may threaten and provoke him.

<u>Precipitating factors</u>- Three main precipitating factors have been identified to highlight the possible triggering factors to client A's involvement in anti social criminal behaviour. Firstly, the changes in client A's lifestyle have been identified as contributing to his unstable and insecure adolescence and teenage years. For example, as highlighted in the functional analysis table (see main body of case study) client A was removed from his parental home at the age of 15 and spent the majority of his teenage years in children homes where he displayed behavioural problems possibly as a result of feeling lonely and scared as a result of this major change in his life at a young age. Secondly, as a result of his continued difficult behaviour, client A spent most of his teenage and adolescent years being moved to different children homes. This continued shift in his accommodation resulted in client A not establishing any solid attachments and relationships to care givers and therefore failing to bond with an appropriate and positive role model who would have supported and guided him during difficult periods at the time. Thirdly, is the clients association with criminal peer groups. Client A reports that the majority of teenagers living in the homes were often involved in criminal activities such as criminal damage, theft and car crimes as a result of boredom. Furthermore, client A stated that he would just be sitting around with nothing to do and therefore it was exciting to go out and mess about e.g. damage property. Client A's involvement with a criminal peer group also gave him a sense of belonging and safety as part of a group, in which peers would encourage each other to be involved in different criminal activities and would support each other against other groups of teenagers.

<u>Perpetuating factors</u>- The perpetuating factors highlight how client A's anti social criminal behaviour is maintained by cognitive and behavioural factors. Firstly client A needs to be faced with a perceived opportunity to offend or a perceived threat or fear in terms of his aggressive offending. For example, he has reported that when faced with any confrontation, he would often act aggressively because he does not know how to express his anger in a more appropriate way. Secondly, is the importance of his thoughts in maintaining his behaviour. Following a perceived fear or threat, client A's distorted thinking would lead him to believe that the other person involved in the threat would hit him and therefore he feels threatened and wants to regain control of the situation by hitting the other person first. In terms of his other types of offence, once he has seen the opportunity to offend, for example seeing a window open he reported that they have left the window open so it is their fault, "they want me to burgle their house."

These distorted thoughts then lead to client A expressing his behaviour such as being violent towards another person, burgling a house or vehicle offences etc. The client's feelings which are influenced by his thoughts then continue to reinforce his anti social behaviour. Feelings of anger and fear due to a threat or feelings for instrumental gain further reinforce his involvement in such behaviours. The clients physiological symptoms such as excitement and arousal as a result of increased adrenaline further reinforce his criminal behaviour.

When considering the perpetuating factors that cause a problem (criminal behaviour) to escalate, it is important to identify that client A's thoughts, feelings, physiological symptoms and behaviour are interlinked and all factors influence and reinforce each other. For example the clients criminal behaviour cause him to have symptoms of excitement and arousal which then reinforce his criminal behaviour in the future.

<u>Predisposing factors</u>- By considering the predisposing factors related to client A's problems, we are able to understand the possible factors that led to the onset of his problems. The clients adverse developmental experiences in childhood for example the

violence he has experience from his father, not being rich at school, being raised in care institutions, using alcohol and drugs and using violence throughout his adolescent and teenage years has led him to develop maladaptive core beliefs. Maladaptive core beliefs such as believing violence can be justified, money and possessions give you status, I have no control over what happens to me and alcohol and drugs alleviate bad feelings and boredom Furthermore, although it is not reported by client A, he may have seen himself as to blame for his fathers anger as he has stated that he would always be in trouble during his childhood. These early experiences and core beliefs may have then led to client A internalising a view of himself as having to always fit in with others, and that things just happen to him which he has no control over. In regards to his offending, client A possibly internalises the view that he is competent and good at the crimes he is committing and that as a result of his offending he has money and status. In addition he compensates for these beliefs by thinking that he is showing his father that he is in control of his life. Client A's drinks and drugs habit is also reinforced because he believes that these substances help him cope with the difficulties he has in his life. These developmental experiences, core beliefs, and compensatory strategies are seen as clients A's vulnerabilities to his presenting problems.

Protective factors- The above precipitating, perpetuating and predisposing factors highlight how client A's presenting problems have developed and are maintained, however it is also important to consider the factors that rely on the clients strengths and support that will aid him in coping and overcoming his problems. For example, based on the pre-intervention SSI client A appears to be motivated to change his offending behaviour and participate on the programme. This is important in that based on his motivation, client A will work hard in participating in the programme to the best of his ability which should lead to a successful outcome in regards to the new skills that he has learnt on the course. Apart from the clients own motivation to address his criminal behaviour, he also appears to have the support of his family, including his mother, brother and girlfriend. Furthermore the clients relationship with his father appears to be developing into a more positive relationship as reported by the client. The support that client A receives from his family is fundamental to addressing his presenting problems

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since they will provide a support circle for him whilst he is in prison but more importantly when he is released from prison and living at his parents house.

Appendix 6

Post programme review

Post programme review

Review of report- The ETS tutor gave a summary of client A's post programme report highlighting the areas for development as identified on the pre treatment semi structured interview and his progress and development on the six cognitive deficits targeted by the ETS programme.

Client A comments- Following the summary of the post programme report, client A was given the opportunity to make comments on his own progress on the programme and the contents of the report. Client A stated that he really enjoyed the programme and he believes he has learnt many skills, for example he reported that he needs to stop and think before he does things in order to step back from the situation and think clearly about all the possible consequences.

He further stated that although ETS was very good and beneficial his main problem is anger and this is the area that he now needs to focus on. He commented that he needs to do an anger management programme in order to gain skills in helping him deal with confrontation however he feels that ETS was a beneficial programme to complete which will now he can build on.

Resettlement manager- The resettlement manager praised client A for his development on the ETS course and highlighted some areas that need to be considered prior and following the clients release from prison. It was highlighted that client A has completed PASRO (accredited drugs programme) during his sentence at HMP Stafford. Client A has no adjudications for drugs at HMP Birmingham and he participates in voluntary drug testing and has had no positive tests to this day.

Client A was asked whether he had previously attended a Sex Offending Treatment Programme. He stated that he had started the course however was told that he could walk

out if he did not wish to discuss his specific offence and therefore he had not fully completed the intervention.

It was highlighted that client A needs to complete an anger management programme which he has referred himself for, however the client will be completing his sentence shortly and therefore it is not clear whether he will be able to attend a group prior to his release date.

Officer- The G wing officer has known client A since 2001 and stated that client A often reacted without thinking, however during the ETS programme he often demonstrated that he can control his behaviour by taking a step back and not reacting on the spur of the moment. He further stated that client A used the skills learnt on the ETS course to deal with a problematic situation highlighted in the post programme report.

Outside Probation- Client A's outside probation officer stated that she is very impressed by the clients progress on the programme. She stated that client A did not get parole however is very committed to change his behaviour and it appears that the ETS course has given him different ways to look at situations. Although this is very beneficial client A would now benefit from completing an anger management programme.

Mother- Client A's mother stated that she is very proud that he has completed the course and done well. She further stated that client A would often be angry and shout on the phone if his girlfriend was not at home however since the ETS programme he appears to be much calmer on the phone and does not always think the worse.

Client A stated that he needs to further control his irrational beliefs as this often leads to him feeling angry and acting aggressively. He further stated that he acts aggressively in order to release his anger as he can not cope with confrontation. He also reported that he

has previously self harmed to cope with difficult situations however he hasn't self harmed for a long time although he still takes his anger out on other people.