

VOLUME 1

An Investigation into the Ability of Psychological Measures to Predict Violent Behaviour for Men Detained in Hospital Under a Section of the Mental Health Act (1983).

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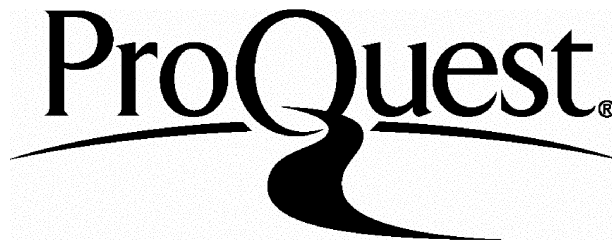
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ABSTRACT

Recent public enquiries have highlighted examples of inadequate violence prediction and risk management by Mental Health Services in the UK. These inadequacies have had dire and sometimes fatal outcomes. A review of literature that spans two decades of research on the prediction of violent behaviour and risk management for mentally disordered people is presented. This study will explore whether a number of different measures drawn from the research literature can be incorporated into a routine clinical assessment within an inpatient setting to improve the accuracy of violence risk assessment

A sample of 40 male inpatients was drawn from a North London Medium Secure Unit. The HCR-20 was used to carry out a notes review. A sub-sample of 18 men agreed to complete self report measures which included the PCL-R, the NAS, the STAXI, the BIS-10 and the EIS. Violent behaviour was measured for the first month of admission for each man using the OAS.

Scores for the HCR-20 significantly predicted inpatient violence during the first month of admission. Scores from self-report measures were examined for associations with inpatient violence. Associations found are discussed in the light of the small number of men consenting to self-report measures. Clinical implications of employing these measures as part of routine clinical practice are discussed in relation to levels of accuracy of violence risk assessment for psychiatric inpatients.

ACKNOWLEDGEMENTS

My thanks go firstly to the participants who took the time to join the study. I am particularly indebted to Janet Feigenbaum and Graham Gibson for the time taken to rate the PCL-R's and also for their advice and support throughout the study.

I am appreciative of the time taken by Laura Hudson, Mari Koskeleinen and Bradley Mann to score the questionnaires and to J.D. Hall for his time in completing notes reviews. I would also like to offer my thanks to Sue Tanner for her support and to Simon Birke for his technical support and advice. I would also acknowledge the generous time and statistical advice provided by Pasco Fearon.

I am indebted to Renee Binder, Kevin Douglas, Stuart Yudofsky and Ernest Barratt for their correspondence and willingness to provide me with papers for the completion of the study.

Finally, I must express my heartfelt thanks to Ian Davey for his priceless support and patience, which has been consistent and invaluable since we met, and to my mother who has supported me throughout my training.

CHAPTER ONE: INTRODUCTION

1.1 Rationale for the present study

Recent public enquiries have drawn attention to the need for accurate prediction and management of violent behaviour, (Blom-Cooper, Hally and Murphy 1995, Confidential Inquiry 1996, Department of Health and Social Security 1988, North West London Mental Health Trust 1994, Ritchie 1994, West Midlands Health Authority 1991). Clinicians have worked towards meeting the recommendations proposed by public health inquiries including the accurate prediction of violent behaviour (Reed 1997, Monahan and Steadman 1994, Monahan 1991, Craig 1982, Wessely 1997, Swanson, Holzer, Ganju and Jono 1990).

A notable inquiry resulting in changes in clinical practice is the Report of the Committee of Inquiry into the Care and Aftercare of Miss Sharon Campbell (Department of Health and Social Security, 1988). Sharon Campbell had a long history of violence including violent attacks on her social worker whom she later killed. The findings of this inquiry helped to develop the Care Programme Approach, (CPA), which was first put into practice in 1991 (Reed 1997). The CPA specifies that aftercare for people discharged from hospital with a mental disorder should include an assessment of risk. Assessment of risk includes prediction of violence and other behaviours that put the individual or others at any kind of risk of harm.

Another prominent public inquiry that has influenced the communication and interpretation of clinical information is The Report into the Care and Treatment of Christopher Clunis (Ritchie 1994). Christopher Clunis was discharged from hospital and then later developed psychotic symptoms whilst living in the community. He was

not contactable by visiting health care staff attempting to treat him and eventually carried out an unprovoked and fatal attack on a stranger. The inquiry found that the severity of Christopher Clunis' violent history had been minimised and downgraded so that a final risk assessment was tragically inaccurate when he left hospital. This inaccurate assessment led to an inadequate programme of care in the community.

These inquiries point to the need to generate accurate risk assessments as early as possible during inpatient stays for violent people. Secondly, carrying out good risk assessment during an inpatient stay protects staff and fellow patients from injury and informs decisions regarding the extension of periods of detainment (Mc Neil and Binder 1988).

In addition to the changes initiated through inquiry results other recommendations emerge from the research literature. Monahan and Steadman (1994) emphasise the need to use the latest available tools for the assessment of violence risk in clinical practice. Douglas et al. (1999) have pointed out that levels of accuracy for the prediction of violence compare favourably with those for bypass surgery for angina, (.91-1.70 and .80 respectively).

This study will explore whether a number of different measures drawn from the research literature can be incorporated into a routine clinical assessment within an inpatient setting. The need for accurate decisions regarding the continuance of detention for people under section necessitates the exploration of the latest available tools developed to assess risk of violence. Furthermore, proposed legislation

permitting detention on the grounds of violence potential rather than violence observed will require high levels of accountability from mental health professionals charged with the responsibility for making these decisions. It is the prediction of inpatient violence that is the focus of the present study.

The clinical and ethical challenges of assessing dangerous people in psychiatric hospital settings will be addressed in this chapter. This will be followed by a review of the various theories of violence which will include their relative contributions to accurate predictions of violent behaviour. This chapter seeks to then examine the prevalence, characteristics and circumstances of violent behaviour. The focus on violence will be extended to inpatient violence. Drawing on themes common to inpatient and general violence a brief overview of treatment will demonstrate the need to identify candidates for treatment. The need for accuracy of identification of violent people has been the driving force behind the development of the concept and practice of violence risk assessment. A historical review of this work will prepare the ground for an overview of current practice in risk assessment. Proposed legislation will be outlined and discussed with reference to levels of accuracy currently achievable using the latest available risk assessment tools. The measures chosen for the study, how the study attempts to avoid previously identified methodological problems and the Medium Secure Unit where the study took place will then be described.

1.2 General theories of violence

Genetic Research

Carey (1996), in a review of genetic research makes the point that it is important to clearly define aggression when investigating the heritability of aggression as it is a multifaceted construct. The author goes on to describe how genetic information determines the make-up of proteins and enzymes, which in turn may impact on the neuro-biological functions that govern higher order behaviours. Comparisons of profiles for personality traits associated with aggression from Monozygotic (MZ) and Dizygotic (DZ) twins report that correlations amongst MZ twins are significantly better than for DZ twins. Similar correlations are also reported for comparison between MZ and DZ twins raised apart. The suggestion is that there is some genetic transmission of genes that is associated with traits linked to aggressive behaviour

Research on twins that has specifically explored interpersonal violence has found that MZ twins show higher correlations for traits associated with this behaviour; however, the correlations achieved for MZ and DZ twins are not significantly different from each other (Christiansen, 1968). Other research has found that using symptoms of Anti-Social Personality Disorder (ASPD) to compare likenesses between MZ twins raised apart suggests that co-morbidity for Substance Abuse (SA) and ASPD may be something that is influenced by genetic make-up (Grove, et al. 1990). In summary, it may be that genes associated with interpersonal violence and more specifically co-morbidity for SA and ASPD may in some measure be genetically transmitted.

One of the largest studies carried out to investigate similarities between adoptees and biological parents found a linear relationship between numbers of convictions for biological parents and adopted away children (Carey 1993). One particular finding in

this study was that ASPD traits and SA in biological parents predicted court convictions for adopted away offspring. However, this relationship was not found when violent crime was specifically examined. Further, the authors propose that the presence of SA in adoptees may moderate the relationship found between convictions in parents and adoptees (Carey, 1993). The conclusion is that the likelihood of abusing substances and engaging in aggressive behaviour is raised for the biological children of parents with these problems. However, low base rates and differing definitions of violence preclude strong statements about the links between violence to others and genetic make-up. More research is suggested to explore any links that may exist.

Other studies have investigated communities of mice genetically engineered to produce aggressive traits (Garipey, Gendreau and Lewis, 1995). These studies point to the relative strength of processes of social adaptation. For example, manipulations of social development affect eventual levels of aggression, raising genetically aggressive mice with other males lessens their aggressive nature relative to genetically similar mice raised in isolation. This work seems to be suggesting that social adaptation can be a more powerful determinant of behaviour than a genetic predisposition, providing some support for psychological and social skills therapies to ameliorate aggressive tendencies in humans.

Neurobiological Research

There are a number of neuro-transmitters thought to be involved in aggressive behaviour, one relatively consistent finding is that lowered levels of the cerebrospinal

fluid (CSF) 5-HT metabolite, 5-hydroxyindolacetic acid (5-HIAA) have been found in people who have committed suicide (Coccaro and Astill, 1990), this behaviour is considered by many to be an act of aggression against the self. Additionally, other research suggests that low levels of 5-HT (or serotonin) in laboratory animals predisposes them to aggressive behaviour (Coccaro and Kavoussi 1996). Coccaro and Kavoussi (1996) propose the hypothesis that aggressive behaviour is the product of a number of necessary conditions. In addition to environmental factors; lowered function of the 5-HT system may modulate the “threshold” at which people respond aggressively or not.

Other central neurotransmitters thought to influence aggression are norepinephrine, dopamine and endogenous opiates. However research investigating these chemicals is not conclusive. Coccaro and Kavoussi (1996) conclude that further research is needed. One relevant finding is that Dopamine antagonists enhance aggression in rats. Use of cocaine and amphetamines, which increase dopamine levels, is widely accepted as increasing the likelihood of aggression in humans (Coccaro and Kavoussi 1996). Such findings go some way to explaining the association between substance use and violent behaviour and will later be discussed when examining predictors of violent behaviours found in actuarial studies of community samples (Swanson, Holzer, Ganju and Jono 1990).

Physiological and Social Experience Research

Findings from research into the physical correlates of aggressive behaviour suggest that lowered heart rates are reliably found amongst non-institutionalised aggressive

adults. Lowered heart rates are also found in aggressive children (Raine 1996) The same author hypothesises that lower heart rates may mean that there is a tendency for fearlessness in these people. Leading to an increased likelihood of engaging in risky or aggressive behaviour.

It would appear that most researchers involved in the mapping of behaviour onto physical structures within the brain would agree that the frontal lobes play a role in planning and regulating behavioural responses (Convit, et al. 1996). Some authors suggest that structural damage to this area of the brain may be associated with disturbances in serotonergic function (Van Woerkom, Teelken and Mindehoud 1977). Functional disturbances of this kind have been linked to impulsive behaviour (Blumer and Benson 1975; Weiger and Bear, 1988). In their review of the research Convit et al. (1996) propose that levels of structural damage to specific areas of the brain, heritability and experiences over the life span may combine to predispose an individual to aggressive behaviours. These comments support theorists that assert that breadth and depth of information collection are crucial for accurate violence prediction (Monahan and Steadman 1996).

Studies investigating levels of brain dysfunction in psychiatric inpatients have found relationships between violent behaviour and a variety of measures of brain function including: neuropsychological test batteries (Adams, Meloy and Morit, 1990), a loss of consciousness following head injury, (Felthous 1980) and Electro-encephalograph (EEG) (Fishbein et al. 1989). Volkow and Tancredi (1987) used Positron Emission Tomography (PET) to determine levels of brain dysfunction in forensic patients. They

found that 50% of patients examined had frontal lobe dysfunction. These findings bring to mind other work carried out to establish links between impulsiveness and aggressive response in male prisoners (Barratt 1994). An integration of biological and social processes to explain aggressive and violent behaviour is proposed in a review of research by Stoff and Cairns (1996). Specifically, they assert that the prediction of aggressive behaviour must include an accurate appraisal of the reciprocal relationship between responses to the social environment and the biological state of the individual.

Susman et al. (1996) preface a review of work to investigate experiential effects on neuroendocrine functioning, by pointing out that to postulate one way causal relationships between physiology and behaviour is to ignore the complexity of a much larger system of causality. Essentially aggressive tendencies have multiple causes. In support of this the authors draw attention to the reciprocity of the relationship between behaviour and hormone levels. In the case of aggression the hormone most researched is Testosterone (T). Work with primates and humans supports the suggestion that higher levels of T can increase levels of aggressive behaviour. However, evidence exists to suggest that experiences can impact on levels of T (Booth, Shelley, Mazur, Tharp and Kittock, 1989). These researchers found that winners of tennis matches had elevated levels of T whilst losers did not, they also found that emotional state in the build up to a game was directly related to level of T.

Research to explore the links between elevated levels of T and aggressive behaviour in adolescence has found that T levels appear to be implicated in provoked aggression and low frustration tolerance (Olweus, Matteson, Schalling and Low 1988).

However, the same authors found that T levels did not appear to affect unprovoked aggression. Other researchers remind us that no longitudinal evidence exists to support the assumption that high levels of T in adolescence are related to higher levels in adulthood (Constantino, Grosz, Saenger, Chandler, Nandi and Earls 1993). A more complex model is proposed by Kalverboer (1988) whereby the relationships between hormones and behaviour are at least moderated by levels of emotion and the context of environmental provocation. Therefore, despite the biological evidence suggesting an organic basis for aggressive behaviour it seems possible to impact on aggressive behaviour by influencing these moderating variables of emotion and environment. Hence, there is reason to believe that psychological therapy may play an important part in the amelioration of aggressive behaviour for children, adolescents and adults.

The visible outcome that follows these biological processes outlined above is more usually seen as events that take place in society in the form of violent acts. There are many different kinds of violence, this study specifically focuses on violence to property and others, excluding acts of violence to self. The next section will examine current estimates of violence in the UK and outline recommendations for defining violent acts for the purposes of research. An outline of the prevalence and incidence of inpatient violence will preface a more detailed description of the circumstances, perpetrators and victims of inpatient violence.

1.3 Violence

Prevalence

In 1998 the British Crime Survey (Hough and Roberts 1998) reported that the public believed that general crime was increasing and that the majority of crimes were violent. A closer examination of figures reveals that this is not the case (Taylor 1999). Figures available from the Home Office (Criminal Statistics, HMSO) were examined by Taylor (1999) to explore the themes and trends evident from criminal statistics between 1958 and 1997. The percentage of crimes that are recorded as violent has increased steadily since 1990 to stand at it's highest for forty years at 8% of total recorded crime. In 1997 the major proportion of reported crime is non-violent at 92%. Despite the fact that violent crime accounts for less than ten percent, there has been a significant increase in the incidence of violent crime since 1958. In 1958 the rate of recorded violent crime was 69 per 100,000 people in the population, in 1997 this figure had risen to 674 per one hundred thousand. This represents a ten fold increase in violent crime over the past 39 years.

Figures for the target population of the current study, report that the number of mentally disordered offenders (MDO's) in England and Wales was 2,694 in 1997, this figure shows an increase of 6% on the figure for the previous year (Kershaw and Renshaw, 1998). The proportion of these patients that are female remained stable over the ten years between 1987 and 1997 at 11-13%. This suggests that fluctuation and trends are most likely to be attributable to male MDO's. The majority of MDO's detained in 1997 were classified as suffering primarily from mental illness (92%). In the same year 39% of admissions were either convicted of or charged with violence to others. Seventy one percent of MDO's admitted in 1997 were aged between 21 and 39 years of age. Violence to others and sexual offences were more common amongst

this younger group. Therefore male MDO's seem to reflect trends in admission rates over the last ten years. Violent offenders are a substantial percentage of all MDO's and the majority of MDO's are under the age of forty.

With respect to inpatient violence, some authors compared assault rates in hospitals with the rates of violent crime across two Health Authority districts and found that inpatient levels of violence reflected the prevalence of violence in the surrounding community (Walker and Caplan 1993). Overall, review studies suggest that levels of inpatient violence are on the increase (Haller and Deluty 1988; Shah, Fineberg and James 1991). Comparisons between studies are hindered by differing research definitions and methodologies. This is a complex issue as the method of recording affects the definition of inpatient violence. For example, to have low thresholds for caseness of violent behaviour may overestimate violent incidents. To have the reverse will underestimate relevant to other measures. Therefore, estimates of prevalence of violence are difficult to interpret and should be treated with caution.

In summary, it appears that violence in the general community is on the rise. A large minority (39%) of MDO's admitted to hospital in 1997 were charged with or convicted of violence to others. Violence in psychiatric inpatient units appears to reflect levels of violence in the community. It would appear that inpatient violence is on the increase, making the prediction and management of violence an important and urgent challenge for clinicians in inpatient settings.

Definitions

Douglas Cox and Webster (1999) comment on the definition of violence saying that their preferred definition is one that has emerged from the recent literature on violence risk assessment (Boer, Hart, Kropp and Webster 1998; Hart 1998; Lyon, Hart and Webster, in press; Webster *et al.* 1997). Violence is “actual, attempted or threatened harm to a person or persons” (Webster *et al.* 1994). Further, they make the point that such a definition allows for flexibility and can be measured along the dimensions of: severity, physical vs. non-physical, sexual vs non-sexual and instrumentality. The definition for the current study is “Actual, attempted or threatened harm to a person or persons by inpatients”.

Conditions

The presence or absence of activities to focus upon is suggested to have an impact on occurrence of inpatient violence, for example, higher levels of violence appear to occur during periods of when no focus of activity is available for patients (Blom-Cooper *et al.* 1995). Additionally, these findings are supported by evidence showing that almost no violence took place in areas dedicated to therapy or occupational pursuits (Torpy and Hall 1993).

Characteristics of patients

Research examining the impact of diagnosis does make a case for suggesting that active psychosis may be a predictor for violent behaviour by inpatient, outpatient and never treated populations (Link, Andrews and Cullen 1992; Swanson, Holzer, Ganju and Jono 1990). Research investigating characteristics of inpatients involved in violent

incidents suggests that they are more likely to be diagnosed as having Schizophrenia and to be experiencing an active psychosis (Noble and Roger 1989).

Other characteristics associated with inpatient violence that appear as strong themes in the literature suggest female gender is associated with a higher frequency of violent incidents (Binder and McNiel 1990; Fottrel 1980; Larkin Murtagh and Jones 1988; Steadman et al. 1993; Swanson et al. 1990). This finding is echoed in research carried out to assess the impact of gender on levels of violence in the prison population (Dobash, Dobash and Gutteridge 1986). In a review of factors that may predict inpatient violence Davis (1991) suggests that stage of illness is an important factor to account for in any research. This author recommends that whether a patient is in the acute phase or in remission will make a difference as to whether they become violent as inpatients.

The victims of inpatient violence

Research investigating the targets of inpatient violence suggests that inexperienced staff (Hodgkinson, Mc Ivor and Phillips 1985) as well as authoritarian or rigid staff are likely to be victims of violence, in some cases repeatedly (Cooper and Mendonca 1989; Durivage 1989). The American Psychiatric Association report that as many as 40% of Psychiatrists and a higher percentage of psychiatric nurses have been the victims of assault by psychiatric patients (Dubin and Lion 1993; Brown, Dubin, Lion and Garry 1996). Strong associations have also been reported between increased levels of violence and periods when temporary staff are used (James, Fineberg, Shah and Preist 1990; Fineberg, James and Shah 1988). This research suggests that staff

who are unfamiliar with the unit they are working on and with the patients they are caring for are more vulnerable. Patients who are attacked by patients tend to remain the victim in future incidents whilst aggressors are also thought to maintain their roles, (Depp 1976).

A review of inpatient studies

In a review of studies of inpatient violence conducted in the UK, Crichton (1995) prefaces any conclusions by outlining methodological differences between studies. Specific differences between studies include definitions of violence and methods used to measure violence. One particularly unhelpful measure of violence has been to use severity of injury caused by the violent act, Crichton notes that this does not account for the role of chance in the degree of injury sustained during a violent incident. Others have highlighted differing measurement of violence as hindering the comparison between bodies of research (Davis 1991; Monahan and Steadman 1994). Therefore, it is important to define violence according to a standard scale that is comparable across studies. In addition, several studies do not compare violent groups with non-violent others. Amongst all available studies, evidence that suggests a higher level of violence in Schizophrenic patients is said to be methodologically flawed as it fails to take into account the predominance of Schizophrenic diagnoses within inpatient samples (Davis 1991). Therefore, the chances of a violent inpatient having a diagnosis of Schizophrenia is significantly higher than the chances of having a different diagnosis.

In summary, the findings suggest that violent behaviour is more likely to occur when staff are inexperienced and/or use an authoritarian management style. The research also indicates that certain patient groups are more likely to be involved in violent acts, most notably those who are actively psychotic, (possibly female) and experiencing periods of inactivity. For clinical staff and vulnerable patients on secure wards the outlook seems grim. Secure wards, by definition, admit people who are a danger to themselves or others, and problems with staffing may increase the chances that patients will become violent toward others.

1.4 The treatment of violence in inpatient settings

The rationale for predicting violence is prevention. One way of preventing violence is to intervene to alter a person's behaviour. There are three broad approaches to altering behaviour. Firstly, to affect internal biological processes such as levels of arousal. Secondly, to change the context and the circumstances around the behaviour such as the antecedents and consequences of violence. Thirdly, another kind of intervention can target the process by which the person processes the information that leads to violent behaviour. These three approaches can be thought of as psychopharmacological, behavioural and cognitive therapies respectively. The section below will provide a brief outline of these three approaches. The importance of a broad based assessment will be emphasised as an important part of any treatment decision.

Psychopharmacological Treatments

According to Tupin (1987) there are two rationales for the use of medication to prevent violence, 1) short term amelioration to prevent harm to self or others or, 2) longer term medication based on a thorough assessment that indicates a neuro-biological origin for violent behaviour. For short term management a range of medications are available. Anti-psychotic, anti-anxiety or sedative medications are usually used to control aggression in people admitted to hospital. All have side effects and require careful monitoring for a range of problems including stiffening of the limbs and respiratory depression. It is also important to assess for the presence of any other drug that may have been previously ingested prior to admission, neurological intactness and level of consciousness.

Use of medication over the long term relies on careful assessment of the probable causes of violent behaviour. There are some rationales for violent behaviour that make psychiatric treatment inappropriate. Examples of this include poverty driven criminal or politically motivated violence. The better known choices for long term treatment with medication are anti-psychotics, anti-anxiety, anti-depressants, lithium, anti-convulsants and hormones. Again, these medications depend on careful and thorough assessment of the violent patient as each is designed to treat an underlying mental disorder that may be driving violent behaviour.

The overwhelming impression gained from a review of pharmacological treatments by Tupin (1987) is that the choice between using medication or not in the long term relies on a multi-disciplinary assessment of violent behaviour. In particular the context

and circumstances of past occurrences of behaviour. Part of this decision-making processes involves assessing the likelihood of future violent episodes if considering long term treatment strategies.

Behavioural treatments

Wong, Slama and Leiberian (1987) describe a range of behavioural treatments available. Behavioural analysis of aggression can yield antecedents, behaviour and consequences for violent incidents. Careful assessment of behaviour can inform the use of rewards for non-violent behaviour and negative reinforcement (the removal of pleasant stimuli) in response to violent behaviour. These authors stress that programmes of behavioural therapy must be carefully supervised and never used to legitimise punitive or institutionally convenient conditioning. Further, the evaluation and monitoring of behavioural change is an integral part of this approach and should guide the application of any intervention over time.

Restraint is another behavioural option for the management of violent behaviour. In many cases physical restraint of patients is used only in emergencies to prevent harm. There are rationales for using restraint over the long term, it may be the case that the violent person is not amenable to verbal intervention due to various difficulties e.g. cognitive deficits. The use of restraint should be governed at all times by a treatment plan that specifies contingencies for the use of restraint. The shortest periods of restraint possible should be used and the programme must be rigorously evaluated in order to ensure treatment needs rather than routine is the factor that determines the use of restraint. These authors make the point that restraint may, for some patients, be

a reward in the form of physical contact and social interaction. Again careful continuous assessment of treatment needs and risk of violence is essential to ensure the ethical application of behavioural methods of treatment.

Cognitive behavioural treatment

Novaco (1976) reported good outcomes for treating those prone to provocation with a cognitive-behavioural strategy for the control of anger. More recently, Stermac (1987) found that comparisons between treatment and control groups indicated that anger management training improved ratings on measures of anger, impulsivity and coping strategies.

Novaco's model (1976) proposes that three domains explain the angry response. Cognitive processes, physiological arousal and behavioural reactions are thought to combine to determine a unique anger response for each individual. Anger management training focuses on these three domains over a course of treatment spanning up to ten sessions. In practice the sessions usually last 1½ hours and individual key working sessions facilitate the completion of homework between sessions.

Therapy begins with an educational session regarding the model for anger and the treatment rationale. Members of the group are asked to keep diaries of day to day events of times they feel they did well in controlling anger. During the early sessions members are encouraged to: recognise triggers for anger, recognise warning signs of arousal and develop an understanding of the interaction that led to uncontrolled anger and make use of relaxation and other anger management techniques.

Further sessions are spent practising skills and testing out the utility of acquired skills in role-plays and during imaginal exposure in key worker sessions. Some specific techniques are self talk where the key worker and the group member work together to identify personally relevant and meaningful statements that are useful in controlling angry feelings before they have become too powerful.

Techniques for physical intervention regarding angry responses are to encourage programmes of exercise or other enjoyment in combination with relaxation training. Further, assertive communication strategies are explained and practised to enable group members to alleviate their frustrations via appropriate means of action.

These treatments have been shown to have good outcomes for angry and violent people in treatment institutions. However, the therapy is relatively lengthy and demands commitment and engagement from participants. Therefore, it is important to assess motivation for therapy and understanding of angry behaviour carefully before considering admission to the group. Additionally, at a time when accuracy and efficacy of therapeutic intervention are priorities for health services it is important to target therapy at those most in need. The future could bring a situation where good assessments of violence prediction for inpatients also provide information relevant to recommendation of therapeutic modality.

Alongside treatment goals the process of assessment of dangerousness or future risk of becoming violent is a goal in itself that governs not just treatment but also disposal

of mentally disordered persons to either prison or hospital. As such this process has come under much scrutiny in order to be as certain as possible that the right assessments were used as the basis for life changing decisions about the care of mentally disordered persons.

Historically, the response to the risk of violence posed by mentally disordered people has been an attempt to assess levels of dangerousness. In particular psychiatrists in America were, at one point, required to assess levels of dangerousness for mentally disordered offenders in order to allocate them appropriately following arrest. The problems associated with the implementation of the concept of dangerousness have given rise to considerable debate and research concerning its definition and clinical utility (Coccozza and Steadman 1976, Coccozza and Steadman 1978).

1.5 The Practice of Risk Assessment

1.5.1 The Past: The Development of the Practice of Risk Assessment

In a recent and comprehensive discussion of violence risk assessment, Douglas, Cox and Webster (1999) emphasise that the science of risk assessment could now be extremely valuable to clinicians (Douglas, Cox and Webster 1999). Douglas *et al.* (1999) outline the breadth of developments in the areas of concept definition, research methodology, sample selection and statistical methodology. From 1971 dangerousness became a legal concept in America and psychiatrists were legally required to assess dangerousness for people charged with violent crimes (Coccozza and Steadman 1978).

In a recent review, Monahan and Steadman (1994) observe that only one piece of research examining the accuracy of violence predictions was published between 1979 and 1993. Methodological inconsistencies and problems with concept definition were setting the scene for virtual malpractice by psychiatrists required by law to assess a quality (dangerousness) that had not yet been understood. Ideally, research should have informed the definition of the concept providing practitioners with valid and rigorous criteria on which to base judgements of dangerousness.

Various papers discussed and investigated the capability of Psychiatrists to predict levels of dangerousness, (Coccozza and Steadman 1976:1978). A discussion of the concept of dangerousness (Coccozza and Steadman 1976) expresses disquiet that the concept was so poorly defined given that it governed important decisions concerning the levels of detention and the possibility of release of psychiatric patients. At this stage a suggestion was made to differentiate between the concepts of dangerousness and dangerous behaviour, specifically defining dangerous behaviour as "...violent assaultative behaviour against persons." (Coccozza and Steadman 1976).

Coccozza and Steadman (1976; 1978) commented on the inaccuracy of predictions and presented archival data that examined the predictions of dangerousness made by psychiatrists when assessing indicted felons deemed incompetent to stand trial. Findings suggested that the most common predictor of a finding of dangerousness was the nature of the alleged offence. Of all violent offenders 75% were found to be dangerous whilst of the non-violent group only 25% were predicted to be dangerous. A second and more worrying finding was that the influence of the alleged offence is

only mentioned in one third of written rationales for the prediction of dangerousness by Psychiatrists. Coccozza and Steadman (1978) make the point that the consequences of these decisions were enormous for these defendants as they were awaiting trial and their disposal to either prison or hospital depended on these assessments. They conclude that:

“Whether magic or science, the prediction of dangerousness by Psychiatrists represents an excellent example of professionals who have exceeded their area of expertise and for whom society’s confidence in their ability is empirically unjustified.”

Coccozza and Steadman (1978 pp. 275)

Steadman et al. (1993) present an excellent review of the development of the concept of dangerousness as it became one of risk assessment. Initially, during the late 1970’s and early 1980’s, research began to suggest that there were problems with the levels of accuracy that could be claimed for assessments of dangerousness by clinicians. They point out three reasons for doubting the validity of these judgements. Firstly the criteria psychiatrists said they were using to predict dangerousness were not actually the ones they used in practice (Coccozza and Steadman 1978). Also, accuracy was low (Coccozza and Steadman 1978) and when errors were made they were always in the direction of over estimating levels of dangerousness (Steadman and Morrissey, 1981).

In the late 1980’s statistical approaches for identifying factors associated with dangerousness began to appear (Steadman et al. 1994). In addition to these alternative approaches a public health perspective became important as predictions of violence had enormous implications for prioritising the provision of public health

services. This rethink provoked a shift away from dichotomous categories of “dangerous” or “not dangerous” toward a more comprehensive continuum of risk. The need to assess risk from day to day rather than to make a snapshot prediction of risk for the purposes of a court hearing became accepted as best practice. Examining the probability as to whether serious violent behaviour would occur incorporated contextual variables into the assessment of risk of violent behaviour. The implication of these new developments was to bring about a practice of risk management which encompassed all of the above aspects as a process of management aimed at the reduction of violent behaviour (Steadman *et al.* 1993; Monahan and Steadman 1994; Chin 1998).

Reviews of risk assessment research to evaluate these developments often cite a number of problems that have impeded the development of robust research strategies; one of these problems has been described by Monahan and Steadman (1994) as weak criterion variables for detecting and/or measuring violence. For example, research projects have used differing definitions of violence making cumulative conclusions difficult (Monahan 1988; Steadman *et al.* 1993; Douglas *et al.* 1999). However, it could be argued that as the definition of the concept of dangerousness has shifted toward an understanding of a risk assessment process, a clearer understanding of measurement of violence has emerged.

In 1993 Monahan stated that the conclusions he had drawn ten years earlier in a review of studies to examine the relationship between mental illness and violence were incorrect in suggesting there was no relationship between the two. He explains that

there are two reasons for his earlier pessimism. Firstly, his controls for social class and previous institutionalisation were problematic, i.e. sometimes people decline in class because of mental disorder or institutionalisation. The second reason he cites is the improvement in the quality of the literature that followed his statements in 1983. The culmination of these developments in research and practice are discussed below.

1.5.2 The Present: The State of Risk Assessment Practice Today

The Epidemiologic Catchment Area Surveys (ECA) (Swanson, Holzer, Ganju, and Jono, 1990) data represent a random sample of community residents who were asked about the last year. To count as a diagnosed case of psychopathology a respondent had to report symptoms for the last twelve months. Whilst to score positive for violent behaviour an endorsement of one of five items asking about violent behaviour was sufficient.

Findings of this study were that low socio-economic status and young age were related to violent behaviour. Amongst the younger age group (under 45) rates of violence increased sharply when the lowest socio-economic group was separated from the rest of the under 45's. Of all violent respondents over half (51.5%) met the criteria for psychiatric disorder. Prevalence of substance misuse (including alcohol) in the violent group was 44%, compared to 4.93% in the non-violent group. One possible reason for this striking discrepancy may be that the measure of violent behaviour was the presence of any violent behaviour during the twelve months prior to interview.

The measure of substance use included alcohol and was based on the respondent meeting DSM III diagnostic criteria over the twelve months prior to interview. Five items asked about violent behaviour, these items were designed also to measure alcohol abuse and anti-social behaviour. These figures would suggest that the measure of violence is strongly associated with the measure of substance use. Interestingly one of the questions asked in the interview was “Have you ever gotten into physical fights while drinking?” If a respondent answered yes to this happening once during the last twelve months he or she would be classified as violent. Therefore it was easy for a one-off event to lead to a classification of a respondent as an alcohol abuser and an antisocial person.

Swanson et al. (1990) explain that they are not happy with the measure of violence they used. The items measuring violence overlap with each other and do not measure frequency or severity of violent behaviour. They explain that people who committed multiple homicide are not differentiated from those that struck out once during the preceding twelve months. Therefore, the group described as violent encompasses a wide range of people who may not be considered sufficiently violent or dangerous to come to the attention of mental health or legal services.

When exploring the impact of number of diagnoses, in this population they found that diagnostic morbidity was increasingly associated with the likelihood of being violent. They explain that this finding may be due to those with more than one diagnosis having substance misuse as one of the diagnoses and that this is a factor most strongly associated with violent behaviour.

A later study by Link, Andrews and Cullen (1992) compared patient groups with non-hospitalised random samples, controlling for desirability of responses. They found that mentally disordered groups reported 2-3 times more violence than did the non-hospitalised sample. These authors measured psychiatric symptomatology using a standardised scale known as the Psychiatric Epidemiology Research Interview (PERI) (Dohrenwend, Shrout, Link, Martin and Skodal 1986). Controlling for active psychosis, any differences between the levels of violence between the groups became non-significant, suggesting that violent behaviour could be explained by active symptoms of psychosis. The authors make the point that the association is a modest one and that it is active symptoms of psychosis that are specifically associated with violence rather than symptoms of mental illness per se.

Monahan (1993) concludes that together the Swanson et al. (1990) and Link et al. (1992) studies suggest that active psychotic experiences appear to predict violent acts. He concludes that there is a relationship between violence and mental disorder but only for those currently experiencing active psychosis. Monahan (1993) argues that this does not support custodial approaches to mentally disordered individuals but makes clearer and more specific the relationship between mental disorder and violence.

Overall, some of the findings in these two studies are inspiring, for example, young age, low socio-economic class, presence or absence of psychiatric disorder, substance misuse and the presence of active psychotic symptoms are emerging as likely

predictors for violent behaviour. Taylor et al. (1998) surveyed the records of 1015 special hospital patients to explore the relationship between mental disorder and violence. These workers examined the nature of the index offence and any descriptions of symptomatology present at the time of the offence. For patients with functional psychosis, positive and negative symptoms were highly likely to be present at the time of the index offence.

Specifically, a high proportion of these patients (30%) were said to have been driven to offend by delusions alone and a similarly high proportion (44%) were found to have been driven by hallucinations and delusions. Other researchers have found that these symptoms are associated with violent behaviour (Swanson et al. 1990; McNiel and Binder 1995). The sample used in this study was drawn from a special hospital population. The authors make the point that this study probably underestimates substance use. The reason for this is that data collection in special hospitals does not include measurement of substance abuse problems because they are not thought to be a common factor in assaults taking place within special hospitals. Therefore, it may be that substance use does play a role but that fact is not represented in this study.

Using a hospital inpatient sample, Kho, et al. (1998) carried out a prospective study to investigate the validity of previous research findings suggesting that persons diagnosed with Schizophrenia display higher levels of aggression. This finding is suggested by other researchers (Pearson *et al.*, 1986; Noble and Roger, 1989; Lim, 1991). Kho et al. (1998) found associations between Schizophrenia and violence for females but not for males. Specifically, they hypothesise that nursing staff are more

likely to tolerate higher frequencies and severity of violent behaviour before physically intervening because female patients are perceived to be less threatening than males engaging in the same behaviour. However, the authors recommend further research to investigate this possibility by including characteristics of inpatient settings, clinical management styles, and the nature of staff-patient interactions. This would clarify any robust differences in staff response to females compared with males. This hypothesis may also explain multiple findings of high frequencies of violent behaviour for females by others (Binder and McNiel 1990; Fottrel 1980; Larkin Murtagh and Jones 1988; Swanson et al. 1990).

In this study, length of time since admission was associated with aggression. Aggression increased two weeks after admission. In explanation, these authors suggest a number of factors specific to psychosis. These factors include: pattern of psychotic features, symptomatology and even staff response to psychosis. These factors could be investigated to explore possible factors in the relationship between violence and mental disorder for inpatients. This finding suggests that it may be useful to include information regarding stage of admission when predicting violence for psychiatric inpatients.

Meta analyses carried out to investigate predictors of recidivism in discharged offenders found that there was no difference between predictors for disordered and non-disordered offenders (Bonta, Law and Hanson 1998). They also found that criminal history variables outperformed clinical variables such as 'psychopathology', 'diagnosis' and 'intellectual dysfunction'. In fact these clinical variables showed the

smallest effect sizes (Bonta et al. 1998). Specifically the superior predictors in this study were violent history and juvenile delinquency.

These authors make a case for relying on social criminological theories developed on non-disordered offender samples rather than relying on models of psychopathology to inform future violence prediction. Therefore, in addition to the predictor variables already mentioned, variables that reflect previous offending history are appearing as possible candidates for future prospective research strategies.

Douglas et al. (1999) have reviewed the latest available studies of violence prediction and conclude that methodological and statistical advances have enabled predictions of violence to be considered as a moderate to large effect size according to Cohen's power estimates (Cohen 1992). These authors cite a study by Lipsey and Wilson (1993) which compared a range of well known medical and psychological treatments on the basis of effect sizes. Douglas et al. (1999) add to this list the latest violence prediction studies (Douglas et al. in press; Kropp et al. 1999; Rice 1997; Strand et al. 1999). The effect sizes added to the list for violence prediction range from .91 to 1.70 and compare favourably against effect sizes for: bypass surgery for angina (.80), chemotherapy for breast cancer (.08-.11) cognitive behavioural and behavioural psychotherapy (.64), and the effect of ECT on depression (.80). The conclusion is that respectable effect sizes can now be calculated for violence prediction. Looking back to the seventies and the prevailing pessimism illustrates how technology in areas like methodology and statistical techniques can turn an area of research around in two decades.

1.5.3 The Future: Expectations of clinicians assessing the risk of violence

The method by which diagnosis associated with dangerous behaviour became part of law began in 1913. The Mental Health Deficiency Act (1913) referred to “moral defectiveness” which was a state where “mental defectiveness” was combined with “strongly vicious or criminal propensities”. It was felt that this group of people required “care, supervision and control” in order to protect the public from them. There are two terms commonly used to refer to people with personality disorders that are associated with dangerousness. *Psychopathy* is a term that originates from the writings of Hervey Cleckley who described the clinical construct in 1941 (Cleckley, 1941). This concept and its criteria have been further developed by more recent work (Hare, 1970, 1993) and are represented in the criteria for Dissocial Personality in the International Classification of Diseases 10th edition (ICD-10 World Health Organisation, 1992). The criteria for psychopathy have provided the foundation for a published scale to assess levels of Psychopathy known as the Psychopathy Checklist-Revised (PCL-R Hare 1980, 1991).

Another way of referring to this kind of disorder is to use the term *Anti-Social Personality Disorder* (ASPD), the criteria for diagnosing this disorder are contained in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994). There are differences between the two constructs, Hart and Hare (1997) comment that correlations between ASPD diagnoses and PCL-R scores suggest the presence of Psychopathy is high ($r=5.5-6.5$). They further point out that between 50% and 80% of detained offenders and forensic patients are diagnosed with ASPD, whilst a significant minority of these (15% -30%) score as

psychopathic according to the PCL-R. This would suggest that the ASPD is comparatively over inclusive and as it relies on the presence or absence of observable behaviour may be including people with criminal histories rather than selecting out people with fundamental enduring personality problems. The PCL-R on the other hand selects out people who have personality problems, also behaviour is considered when it appears to be driven by personality disorder rather than whether or not it occurred at all.

The Mental Health Act (1959) first introduced the term Psychopathic Disorder to refer to “persistent disorder or disability of mind which results in abnormally aggressive or seriously irresponsible conduct”. This term remains to describe a category under which people are detained in the latest Mental health Act (1983). In 1983 the European Court of Human Rights provided Mental Health Review Tribunals (MHRT) with the power to discharge people from hospital. This meant that someone detained under the category of “Psychopathic Disorder” was eligible for discharge if it was possible to demonstrate to a MHRT that he/she was untreatable in hospital. At the same time there was no conclusive evidence that Psychopathic or Anti-Social personality disorders were treatable in hospital.

The Report of the Committee of the Inquiry into the Personality Disorder Unit at Ashworth Special Hospital (HMSO 1999), concluded that there should be stronger provisions to detain offenders with a personality disorder who were assessed as posing a risk to the public. Home Office proposals for new legislation to enable the detention of people with dangerous and severe personality disorder state that checks

and balances for this new category of detention will be put into practice. These measures will involve regular review and appeal to a tribunal in the same way as currently existing categories of detainment under the Mental Health Act (1983). If patients are to be detained or re-detained on the grounds of dangerous and severe personality disorder it will be important for clinicians to adequately assess dangerousness.

This kind of assessment will require the use of proven, valid and reliable assessment techniques by clinicians working in secure settings. The Home Office recommends further research is undertaken to determine which assessment tools are most accurate and effective for this purpose. Specifically, recommendations for future research include the “evaluation of applying a systematic battery of assessment tools”. It is important that clinicians begin evaluating risk assessment tools and develop routine practice that incorporates them. The current study evaluates the utility of a range of risk assessments in order to ascertain how useful they are to routine clinical practice. The overall aim of risk assessment tools must always be to increase accuracy. There are clear ethical and legal pressures on clinicians to provide accurate assessments as part of routine clinical practice in psychiatric settings.

1.5.4 Accuracy and the importance of the scientist practitioner model

There have been two broad schools of thought in developing levels of accuracy in risk assessment. Grove and Meehl (1996) make a distinction between two kinds of violence prediction saying that essentially to predict violent behaviour using actuarial techniques involves ‘mechanical’, ‘formal’, ‘algorithmic’ and ‘objective’ procedures

to reach a prediction (Grove and Meehl 1996). Whilst to predict violent behaviour using clinical models and information is described as ‘in the head’, ‘impressionistic’ and ‘subjective’ (Grove and Meehl 1996).

Menzies and Webster (1995) examined predictions of risk for a Canadian mentally disordered offender sample. They used actuarial data, psychometric scores and scaled global predictions of dangerousness by clinicians and non-clinicians to predict violence in and out of institutions over a six-year period. They report that neither background variables, scale items nor discretionary judgements by clinicians or non-clinicians could account for more than 25% of the variance in frequency of violent behaviour. In addition to this negative finding, even more worrying was the finding that clinicians were no more accurate in their predictions than non-clinicians. One interesting feature of the data was that prediction of violence for inpatients was more accurate than predictions of violence for those resident in community. This greater accuracy may have been due to the relative constancy of environmental conditions for inpatients compared to outpatients. This suggests that the prediction of violence for inpatients is potentially more accurate than for outpatients.

Grove and Meehl (1996) further make the point that informal “anecdotal” clinical methods of prediction have not outperformed the actuarial methods (Gardner, Lidz, Mulvey and Shaw 1996; McNiel and Binder 1995). They argue that differing philosophical and theoretical orientations concerning the basis of behaviour amongst clinicians trained at different times by different institutions introduces a level of unreliability. They argue that actuarial processes of risk assessment are superior

because measurement errors can be built in to the method of calculating risk. Douglas et al. (1999) make the point that these differing ways of predicting refer to the process and not the variables used to make the prediction. In a meta-analysis of clinical and actuarial prediction studies, actuarial studies proved more frequently accurate than did the clinical studies (Grove and Meehl 1996; Mossman 1994).

Douglas et al. (1999) note that although actuarial studies seem to have a higher level of accuracy, clinicians are traditionally unwilling to accept this greater degree of accuracy. Clinicians often question the ability of actuarial predictions to generalise across settings and the lack of flexibility of predictions making actuarial tools difficult to use in clinical settings (Hart 1998; Grubin 1997). Douglas et al. (1999) recommend the use of empirically validated and structured decision making processes in order to raise the accuracy of clinical judgements of risk. Actuarial variables can be useful in informing decisions about risk level before the clinician moves on to assess which circumstances will aggravate or ameliorate the risk of violence in the patients they are treating (Douglas et al. 1999).

Douglas et al. (1999) make the case for collaboration amongst researchers and clinicians. They identify a gap between routine clinical practice and the science of violence risk prediction. They extend their argument with reference to the value of the scientist-practitioner model for professional practice in clinical psychology. They use the term “empirically validated violence risk assessment” to describe a process whereby clinicians incorporate the latest available research tools into clinical practice and monitor the predictive accuracy of these tools. Eventually, documented

evaluation of clinical rates of accuracy using these tools will add to existing research data. This process is hypothesised to generate more accurate and effective methods for a wide range of settings.

In summary, much is to be gained from a combination of the two approaches to violence prediction outlined here. Co-operation between actuarial and clinical schools of thought would allow for an effective partnership between the science and practice of risk assessment possibly generating future collaborative research strategies that may reveal as yet unknown facets of violence prediction (Monahan and Steadman 1994). Douglas et al. (1999) stress that clinicians have a duty to use recent research findings to inform clinical practice. Using actuarial predictors of violence in a clinical setting will enhance the accuracy of predictions as long as sensitivity to the setting and to the characteristics of the individual are maintained.

Overall, work points to the importance of accuracy, to make mistakes about prediction has a number of undesirable consequences. On the one hand, innocent patients are detained more securely than necessary if they are wrongly thought to be violent. Alternatively, potentially violent people have the opportunity to perpetrate violent acts if they are not assessed as being dangerous before they act. Therefore, all practitioners in mental health settings have a responsibility to assess for violence carefully and take every opportunity to increase levels of accuracy of prediction. One of the recommendations for best practice is to make use of the latest available tools designed for risk assessment.

1.6 Methodological Issues in Risk Assessment Research

Monahan and Steadman (1994) and Monahan (1988) provide a consummate summary of the methodological problems that have frustrated the search for a comprehensive model of violence prediction and management. Such a model could inform the development of a productive model of risk assessment and management for the mentally disordered. Comments made by Monahan and Steadman (1994) and Monahan (1988) refer to research that assesses violence risk in the community for discharged psychiatric inpatients and does not specifically relate to the prediction of violence for inpatients. The comments below will draw on recommendations that are appropriate to inpatient violence.

According to Monahan and Steadman (1994) and Monahan (1988) there are four principal problems with risk assessment research: impoverished predictor variables, weak criterion variables for violence, constricted validation samples and unsynchronised research efforts. This section will outline the nature of each issue below as it relates to inpatient violence.

Impoverished Predictor Variables

As Monahan *et al.* state:

“We are aware of the way that textbooks say variable selection is supposed to be done – by deduction from a fully articulated and validated theory. We are also aware that no such theory of violence or of mental disorder exists. Nor is it plausible to hope that the network, or anyone else, will produce such a grand theory in the foreseeable future (see National Research Council 1993). Indeed it may be that a single coherent theory

linking each of the multiple causes of violence is not feasible. Therefore, we took a broader and more inclusive approach to variable selection”

Monahan and Steadman (1994, pp. 301)

Principally, Monahan and Steadman (1994) state that in previous studies a limited range of predictor variables have been chosen. They explain that often variables from only one area are studied, for example, only demographic information or just measures of mental state rather than looking at a range of predictor variables. Furthermore, they describe how reference to theories of aggression and mental disorder have generated a much more comprehensive set of predictor variables.

The variables they outline are also included in their ongoing large scale study, the MacArthur Risk Assessment Study, (Monahan and Steadman 1994). These variables are: psychopathy (Hart, Hare and Forth 1994), anger control (Novaco 1994), impulsiveness (Barratt 1994), delusions (Taylor et al. 1994), hallucinations (McNiel 1994), and social support (Estroff and Zimmer 1994).

Monahan and Steadman (1994) further make the point that the measurement of psychopathology should reflect the course of the illness rather than simply the presence or absence of psychosis. Situational or environmental variables such as social support are argued to be particularly valuable in generating new and unexpected insights, (Klassen and O'Connor 1985).

General recommendations for predictor variables are that risk factors must be assessed in multiple domains, in other words looking at factors intrinsic to the individual, e.g. personality characteristics such as impulsiveness or psychopathy in addition to his/her life history. New measures are needed to assess variables coming from theories of aggression e.g. anger control (Monahan and Steadman 1994). Variables in research should also follow DSM-IV diagnostic categories and incorporate fluctuations in symptomatology along with descriptions of symptom patterns. An examination should be undertaken of aftercare needs and the availability of services for released patients along with a measurement of the patient's willingness to comply with clinical recommendations after discharge. This variable may be relevant to inpatient settings and can be assessed historically via a review of progress in the community in addition to measuring levels of compliance whilst resident in hospital prior to discharge.

Weak Criterion Variables

This difficulty was mentioned earlier in relation to the definition of the concept of dangerousness. The problems detailed by Monahan and Steadman (1994) relate to the practicalities of measuring violent behaviour in the community. Recommendations that are relevant to inpatient violence are that a standardised instrument to measure types and frequency of violent behaviour is essential such as the Overt Aggression Scale (Yudofsky et al. 1986; Silver and Yudofsky 1991). A second recommendation is that assessments of behaviour must be regular and repeated over an extended period.

Constricted Validation Samples

Monahan and Steadman (1994) observe that one of the obvious difficulties with predicting inpatient violence is that the measurement of violent behaviour takes place in a therapeutic setting where staff are engaged in the process of preventing violent behaviour. Therefore, there is the danger that base rates of violence may be low in these environments (Werner, Rose and Yesavage 1983). Monahan and Steadman (1994) cite a National guideline developed to improve mental health services (National Institute of Mental Health 1991) and recommend that when investigating the violence of inpatients it is advisable to identify statistical interactions that are also present in community violence. These explorations may establish predictive themes across environments that tell us something about violence per se.

Recruiting only subjects with a history of violence is argued against because some researchers have found that there is a difference between the predictors for initial violence and the predictors for repeat violence (Mulvey, Blumstein and Cohen 1986 cited in Monahan and Steadman 1994). Therefore, to recruit participants who could only be repeaters of violence would exclude the measurement of predictors that could apply to initially violent participants.

Recruiting only male participants is discouraged because some research suggests that female participants are just as violent as males, (Binder and McNiel 1990; Fottrel 1980; Larkin Murtagh and Jones 1988; Swanson et al. 1990, Steadman et al. 1993). Again, the rationale for including female participants is that it reveals many possible interactions in the data between gender and violence, rather than excluding the

variable of gender from violence prediction. Therefore, larger sample sizes are advocated in order to ensure adequate base rates of follow up violence for studies. In cases where sample sizes are small, it is recommended that researchers obtain basic descriptive data about the population the sample is drawn from in order to relate the data obtained back to the larger population.

Unsynchronised Research Efforts

Regarding previous research, Monahan and Steadman (1994) explain that historically studies have not used the same definitions of predictor variables. Because much of this research is retrospective, the predictor variables are often dependent on the available archival data in each study. These differences have an invalidating effect on the available pool of data collected in risk assessment research. What is needed is for different studies to use standardised replicated measures in order to increase the generalisability of results.

More synchronicity is also called for across clinical disciplines. The assertion is that differing disciplines pursue their own models of violence and mental disorder to the exclusion of important predictor variables that may originate from the models of other disciplines. Monahan and Steadman (1994) state that the relationship between violence and mental disorder is so intricate that a multi-disciplinary approach is required to produce good quality research. Monahan and Steadman summarise:

“A wide variety of clinical, theoretical (both basic and applied), statistical, and operational skills are required to conceptualise, operationalise, design, conduct, and analyse the kind of research that would give new life to the field of actuarial risk

assessment. A diversity of disciplinary backgrounds among the research participants is conducive to accomplishing such multifaceted tasks”

Monahan and Steadman (1994)

1.7 Measures

A range of measures was chosen for the current study. The following section will outline the theoretical background of measures and the rationale for choosing each measure. Available data on validity and reliability will then be summarised.

The HCR-20

The HCR-20 is a risk assessment tool that samples a broad range of information about a person. The assessment is divided up into three parts: historical, clinical and risk management. Each section corresponds to the past, the present, and the future, respectively. There are twenty items that make up the score and each are worth a maximum of 2 points. The historical scale consists of ten items, the clinical of five, and risk management of five. Scores for each item are zero if the item is not present, 1 if it is partly or may be present, and 2 is scored if the item is definitely present. When the sections are totalled, they provide a total HCR-20 score out of a maximum of forty. The closer to forty a person scores the more likely they are to be at risk of harmful behaviour in the future. The information for this scale can be gathered through notes review and relies on past or current mental health evaluations for some items.

The choice of the twenty items for this assessment were guided by current published research on factors associated with violence, for example, substance use,

psychopathy, impulsivity, major mental illness, young age at first violent incident, previous violence etc. The authors of this scale report that several studies have supported the validity of the HCR-20, however the majority of this work is as yet unpublished because the HCR-20 is a relatively new scale (Douglas et al.1999 Douglas, Ogloff, Nichols and Grant 1999). Douglas et al. (1999b) report that when a participant scored above 20 on this scale they were more 6-13 times more likely to be violent than their lower scoring (under 20) contemporaries. Therefore, the recommended cut off for the prediction of violence using the HCR-20 is a score of 20.

This scale has been chosen for the present study because it correlates highly with violence inside and outside hospital. In addition, this is a notes review measure, as such it is relatively straight forward to collect the data without inconveniencing the patients. Additionally, one of the authors of the scale (Douglas 1999) actually request on his web site that anyone using the scale should send any available data to them so that the psychometric properties of the scale can be enhanced. Therefore, the collection and dissemination of data of this kind directly supports the scientist-practitioner collaboration described above

The PCL-R

The PCL-R is a twenty-item scale that examines interpersonal, affective and behavioural correlates of the concept of psychopathy (Cleckley 1941; Hare 1991). Each item scores a maximum of two points; 0 if the item is not present, 1 if the item may be or is partially present and 2 if the item is definitely or severely present. The

total score on all items is a maximum of 40, The closer to forty, the closer to a prototypical psychopath the person tested is considered. The cut off score for psychopathy is a score of 30. However, a lower cut off at 25 is recommended for the UK population of psychopaths (Cook and Michie 1999). The information for this scale is collected via a semi-structured interview covering a broad range of areas and a thorough notes review.

Hare (1998) outlines some potential problems with validity if the PCL-R is not used correctly by trained professionals. Specifically, it is important that the administrator be suitably qualified by holding an advanced degree in the social, medical or behavioural sciences. Secondly, it is important that the person administering the PCL-R follows the guidelines in assessing the presence or absence of traits that make up the scale. The author warns that experienced clinicians may be tempted to assess for some of the items using “clinical intuition” and this has led some clinicians to make mistakes in America (Hare 1998).

The twenty items in this assessment represent a decade of research to isolate symptoms of psychopathy from factors associated with criminal behaviour (Hart, Hare and Forth 1993). Hart et al. (1994) explain that there are two factors that underlie this homogeneous measure of the uni-dimensional construct of psychopathy. The first factor that emerges from research is characterised by interpersonal and affective components of psychopathy whilst the second factor is made up of lifestyle and social components (Hare 1991). More recently, other researchers (Cooke and Michie 1997)

have suggested there may be three factors within the PCL-R scale these are said to be; interpersonal components, affective elements and behavioural responses.

Hemphill, Hare and Wong (1998) conducted a review of the literature available on the PCL-R and found it to be a good predictor of recidivism across a range of samples drawn from inmate populations. They found that factor two, the lifestyle and social factor was the strongest predictor of recidivism. Another finding was that over a number of studies the PCL-R was seen to strongly predict general recidivism, but more strongly predicted violent recidivism.

Work to assess construct validity in a UK prison population found that the PCL-R does have construct validity relative to a range of other measures of cognitive function and personality (Cooke and Michie 1999). In particular, psychopathy as assessed by the PCL-R was found to correlate highly with hostility, psychoticism and impulsivity. However whilst factor two scores were found to detect behavioural and anti-social components of psychopathy, factor one interpersonal items were not found to be sufficiently sensitive for this population.

Cooke and Michie (1999) recommend a 4 or 5 point reduction in the cut off score for assessing psychopathy in Scotland and England as they have found that according to an item response theory analysis some of the items in the PCL-R do not perform as well in this country as they do in America. Specifically, in Scotland they found that items for glibness and superficial charm are not so easy to detect as UK psychopaths are not as forthcoming in interview as those in America.

Anger

Anger has often been linked with physical assaultativeness, particularly for psychiatric inpatients (Craig 1982; Segal, Watson, Goldfinger and Averbuck 1988; Kay, Wolkenfield and Murrill 1988). Craig (1982) examined a large sample of admissions to hospitals and found that aggression and anger were significantly associated for people with: diagnoses of schizophrenia, organic brain damage and / or alcohol problems. Kay, Wolkenfield and Murrill (1988) followed up patients on an inpatient psychiatric ward and found that anger was the most powerful discriminating factor to differentiate between aggressive patients and non-violent contemporaries. The current study measures anger using two scales: the Novaco Anger Scale (NAS), and the State Trait Anger Expression Inventory (STAXI).

Novaco Anger Scale

Novaco (1994) describes a theoretical basis of anger and response to anger that underlies the design of the NAS. The scale has two parts, part A and part B. Part A assesses the behavioural, arousal and cognitive domains of the anger response. Part B assesses response to provocation and the intensity of response. In part A the cognitive domain has four sub-scales: attentional focus, suspicion, rumination, and hostile attitude. Attentional focus is proposed by Novaco (1994) to be a necessary prerequisite to an angry response, it may reflect an information processing bias and assesses the predisposition to become dominated by anger provoking environmental cues. Suspicion is thought to be reflective of perceived threat and expectations of mistreatment by others. Rumination is said to represent the continued attention to the

provocative cue, this sub-scale also relates to intensity and duration of arousal. Hostile attitude is said to be representative of the tendency to hostility as a pre-programmed response, whereby appraisals that are antagonistic are generalised to other cues and environments. This sub-scale is also thought to reflect a tendency toward harm doing rather than just a negative disposition.

The arousal domain taps the physiological constituent of anger and is made up of four sub-scales; intensity, duration, somatic tension and irritability. Intensity assesses the level of arousal. It is proposed that when arousal reaches a point where it is beyond regulatory control it becomes a clinical problem. Novaco (1994) states that intensity should be related to impulsive aggression. Somatic tension measures the level of physical tension that exists perhaps as a residue of previous anger responses, the important point is that tension can incline a person toward anger in response to a relatively minor provocation. Irritability items describe being bothered or annoyed by minor cues and they are thought to reflect the dimension of readiness to anger.

The behavioural domain is the section that examines responses to anger. Behaviour is thought to be the response that reflects an emotional state, it is also the means of interaction with the environment and the trigger for the angry response. The absence of behavioural responses can increase levels of frustration in provocative situations. This domain is made up of four sub-scales; impulsive reaction, verbal aggression, physical confrontation and indirect expression. Impulsive reaction is thought to be a component related to impulsive aggression and may tap the absence of inhibitory, reflective and moderating processes. These items are thought to be related to

intensity. Verbal aggression is the dimension that can lead to the escalation of confrontations and threatening behaviour and is thought to relate to hostile attitude, intensity, irritability and duration. The physical confrontation scale examines the most problematic part of the anger response, the willingness to carry out harm to others, this scale is expected to be associated with hostile attitude, rumination and intensity. Indirect expression looks at the displacement of angry feelings in response to sanctions or other external inhibiting circumstances. It is thought to ameliorate anger in the short term but may not enable problem solving. This scale is thought to be related to rumination, intensity, duration and somatic tension.

Part B of the NAS is designed to produce a measure of the intensity and generality of anger responses across a range of situations. On the face of it, the items ask about intensity of anger in response to certain provocations. There are five subscales; disrespectful treatment, unfairness/injustice, frustration/interruption, annoying traits and irritations. Disrespectful treatment explores responses to perceived threat such as mockery or criticism. Unfairness/injustice looks at responses to situations where the person is treated unjustly such as in cases of discrimination or bullying. Annoying traits taps external attributions of blame such as finding fault with others, or perceiving others as haughty, or self centred. Irritations, assesses a capacity for being bothered by nuisances and sensitised to incidental events such as disappointment or abrasive interactions with others.

A range of sources of information were used to develop this scale; these included: interviews with clinical staff and angry inpatients, reviews of archival data, a study of

existing anger measures, a series of scale constructions and testing on various populations, and finally, reliability and validity analyses with hospital patients including retrospective and prospective analyses. The standardisation data were obtained using a sample of 142 psychiatric inpatients. The NAS total score correlates with the Spielberger Trait Anger Scale (TA) total at .84 (Novaco 1994). The intensity sub-scale of the NAS was the only sub-scale to strongly correlate with the TA score on the Spielberger and also correlated with the Barratt Impulsiveness Scale total. Part A of the NAS correlates significantly with total number of criminal convictions for violent crimes against the person. The intensity sub-scale was strongly associated with seclusions and restraints for this population.

This scale has been chosen for the current study because of its relevance in the prediction of violence as mentioned above. Novaco (1994) emphasises that the context of violence is important and that anger is neither a necessary nor sufficient condition for violence. However Novaco does propose that the NAS will be useful in the evaluation of inpatients to judge both violence risk and therapeutic progress.

The Spielberger State-Trait Anger Expression Inventory

This questionnaire is a self-report measure. The two main scales are: State Anger (SA) which measures the quality and intensity of anger experienced and Trait Anger (TA), measures an individual's general tendency to experience anger. The STAXI contains 44 items; these become the basis of six scales and two further subscales. The scales are state anger (SA). The TA score is comprised of two sub-scales; angry temperament (AT) and angry reaction (AR). Each of these sub-scales has four items

and measures the tendency to experience unprovoked anger and the predisposition to experiencing anger in response to criticism or unfairness, respectively. The four remaining scales are labelled: anger in (AI), anger out (AO), anger control (AC), and anger expression (AX). AI measures the frequency with which the individual holds anger in, AO measures how commonly the individual expresses anger toward others or objects. AC measures how regularly an individual attempts to control anger. The AX scale is an overall measure utilising all scales $((AI+AO) - AC + 16)$ to provide a general index of how anger is expressed. The equation to calculate AX combines the AI and AO scores and then subtracts scores for AC, a constant of 16 is added to guard against negative AX scores. The raw scores are then converted to standardised T scores.

The STAXI emerged from the combined efforts of two major research projects. One project looked at basic personality traits and another examined a number of components in order to identify contributory factors for a range of diseases such as cancer and heart disease (Speilberger et al. 1983; Speilberger et al. 1985). The initial development of the scale was two separate pieces of work but eventually the two parts, the state-trait and the anger expression scale were combined to provide the more holistic measure of the construct of anger known as the STAXI.

Using American psychology undergraduates (Speilberger et al. 1985) revealed that TA was associated with AO. Findings also indicated that AI was strongly related to TA as measured by the State Trait Anxiety Inventory (STAI, Speilberger, Gorsuch and Lushene 1970). The authors recommend interpretation of the scale uses

percentiles developed by the authors using populations of adult groups including health care, military personnel, adolescents and college students. Unfortunately, the scale was not standardised on forensic or psychiatric populations. However, in combination with the NAS, this scale provides a second measure of anger and helps to determine which constructs are most helpful in the prediction of violence. In general, people scoring a total score above the 75th percentile are thought to experience a frequency and degree of anger which interferes with normal functioning.

For the current study the scales that are of interest are; trait anger (TA), angry temperament (AT), angry reaction (AR), anger in (AI), anger out (AO), and total anger expression scores (AX) High scores on TA are thought to be associated with high levels of frustration and a perception that one is treated unfairly by others. This scale has concurrent validity with other measures of anger and hostility (Novaco 1994). Persons scoring high on AT are thought to be easily provoked to anger. Other characteristics associated with this scale are lack of anger control and impulsive reactions. People who score above the 75th percentile on AR are said to be highly sensitive to criticism and perceived affronts. Scores on AO are thought to measure the expression of anger through physical or verbal aggression toward objects or others. High total AX scores are thought to reflect intense angry experiences. For clinical purposes, examination of the sub-scales that make up AX can determine how anger is expressed.

*Impulsivity**The Eysenck Impulsiveness Questionnaire*

This scale was developed to reflect the construct of impulsiveness using three subscales as Eysenck and Eysenck (1977) believe that impulsiveness is not a unitary construct. The scale is made up of three factors: Impulsiveness (I) Venturesomeness (V) and Empathy (E). Impulsiveness was considered the pathological and abnormal risk taking kind of behaviour. Venturesomeness, as knowingly taking risks and Empathy, the likelihood that a person will be affected by the emotions of others. The authors explain that each factor correlates with main personality traits identified by these authors; impulsiveness with psychoticism, venturesomeness with extraversion and empathy with neuroticism and that the three together form a robust measure of impulsiveness (Eysenck and Eysenck 1978).

The standardisation sample for this scale was 589 men and women with an average age of 26.5yrs of age drawn mainly from London, Derby or Guildford. Unfortunately the sample does not seem to include inpatients or offender populations. The scale was included in the current study to provide a second measure of impulsiveness to be compared with the BIS-10. Barratt (1994) reports that high correlations have been reported between the BIS-10 and the Eysenck Impulsiveness Scale. It is hoped that the BIS-10 will also have associations with measures obtained using the Eysenck Impulsiveness Scale.

The Barratt Impulsiveness Scale

The BIS-10 has been in development since the 1950's (Barratt 1994). There is evidence to suggest that some people are high on impulsiveness whilst others are low. The suggestion is that impulsiveness is linked to organic brain function, specifically frontal and parietal lobes (Convit et al. 1996) and may also be associated with capacity for motor function (Barratt et al. 1994). The scale breaks down into three factors known as cognitive impulsiveness, motor impulsiveness and non-planning. Cognitive impulsiveness appears to represent the difficulties associated with focussing on a task. Motor impulsiveness is made up of factors associated with acting on the spur of the moment and lacking a consistent lifestyle. Non-planning impulsiveness is a sub-scale that measures problems with thinking through things carefully (Barratt 1994).

The populations used for standardisation ranged from a mixed sample of "normal" community dwelling adults through to impulsive and aggressive prisoners including psychiatric inpatients and substance abusers (Barratt 1994). The author of the scale makes the point that, for clinical purposes, it is important to standardise the results of assessment against an appropriate population.

This measure has been standardised using inpatient samples then re-structured and re-standardised using similar samples. It is hoped that this measure will detect levels of impulsiveness that are linked to aggressive behaviour as measured by the Overt Aggression Scale (OAS, Yudofsky et al. 1986; Silver and Yudofsky 1991)

Violent Behaviour

The Overt Aggression Scale

The Overt Aggression Scale (OAS) (Yudofsky et al. 1986; Silver and Yudofsky 1991) was initially developed in response to a need to measure the effects of propranolol on aggressive behaviour. An observational scale was needed because available self-report scales were found to rely on the cognitive ability of participants for completion. Additionally, recall for details of aggressive events is often inaccurate if available at all (Yudofsky et al. 1986). Lion, Snyder and Merrill (1981) report that reliance on incident reports under-estimates the frequency of violent episodes by as much as five times.

The scale divides behaviour into four types; verbal aggression, physical aggression against objects, physical aggression against the self and physical aggression against others. For each kind of behaviour, four levels of severity are described. The definition of a single aggressive episodes is important for the scoring of the scale. Depending on the purpose of the data collection, an episode can be defined as anything occurring following a 30 minute period of calm, alternatively the documentation of every behaviour occurring during a variety of time sampling rationales may be undertaken. For the present study all aggressive behaviour occurring during any one 12 hour period was recorded as one episode.

The scale is scored according to severity of behaviour and degree of intervention required e.g. shouting mild insults requiring talking to the patient scores 2 points;

whilst striking kicking or pushing without injury to others that requires talking to the patient and closer observations score 6 points. This reflects the reality of aggression where verbal aggression pales into insignificance when compared to aggression to others.

This scale can be used to measure severity and frequency of behaviour. The scale yields two indices of aggression. The total aggression score (TAS), is the cumulative total of highest scores for each type of behaviour summed with the highest score for the intervention required. The maximum TAS for any one episode is 26. A second index is the aggression score (AS). This is the sum of the aggression items only, omitting the scores for intervention. This score has a maximum of 21. For the present study scores for TAS over the initial month of admission were calculated for each participant.

This scale was standardised using samples across two sites. Both sites were State Hospitals in New York, America. One hospital comprised 1,600 beds, the other 800 beds. The patients were selected for documented histories of violent behaviour. A comparison with standard hospital documentation demonstrated that on each site the OAS recorded 98% and 87% of violent incidents compared with 27% and 53% recorded in standard hospital notes, respectively.

The scale was chosen for this study because it represents a method of measuring violent behaviour in a standardised way. Other authors have made cogent arguments for synchronising the measurement of violence across studies (Monahan and

Steadman 1994). The choice of this scale represents an attempt to measure violence in a way that allows direct comparisons between this study and others.

Substance use

Work to suggest that there is a relationship between substance use and general crime relies on the investigation of levels of substance abuse in offender groups and the monitoring of criminal convictions amongst known substance abusers (McMurrin 1996). Comparisons between offender and non-offender male samples for use of alcohol in Canada revealed that 79% of an offender sample reported at least one alcohol related problem (Lightfoot and Hodgins 1988). The same authors examined the use of alcohol in non-offenders and found that only 12% of this group reported at least one alcohol related problem. In the UK a survey of offenders and non-offenders found that the average alcohol intake per week was 58 units for offenders and 21 units for non-offenders (McMurrin and Hollin 1989).

Similar patterns have been found for the problematic use of substances. Fifty nine percent of the Canadian prisoner sample described above were found to have substance use problems that required treatment (Lightfoot and Hodgins 1988). Figures available from the US Bureau of Justice reveal that the prevalence of substance use problems is twice as high for offenders than it is for the general population. In the UK Maden, Swinton and Gunn (1992) discovered that 43% of a sample of incarcerated offenders in Britain reported problematic substance use.

In a recent review of problem alcohol use and offending, one conclusion drawn is that violent criminal behaviour and problem drinking are associated with each other (Collins 1986). Miller and Welte (1986) split a large sample of incarcerated offenders (14,341) into 4 groups depending on what substances they had used before committing crime. Groups consisted of those using alcohol and drugs, alcohol alone, drugs alone and neither drugs or alcohol. Use of both substances was most strongly associated with violent crime, the next strongest predictor of violent crime was alcohol use only.

Other investigations examining levels of criminality and type of substance use have found that use of alcohol and drugs is associated with higher levels of criminality (Lightfoot and Hodgins 1988; Hammersly and Morrison 1987). Exploration of which specific substances are linked with crimes against the person suggest that opiate and cocaine use are more likely to be linked to these crimes (McBride 1981). Davis (1991) notes that a history of using central nervous system stimulants such as amphetamine and cocaine are particularly likely to increase the chances of inpatient violence behaviour.

Young age and male gender are two variables that, in combination with substance abuse have been found to account for large proportions of violent crime in prison samples (Miller and Welte 1986). Other variables that link with substance use when violent offenders are sampled are those with high psychopathy scores (Smith and Newman 1990) and those with psychiatric diagnoses (Hillbrand, Foster and Hirt 1999).

Therefore, the current study endeavours to record types of substance use for participants in order to explore any links between a history of substance abuse and violence during the first month of admission. The measure of substance use for the participants in this study is a measure designed by clinicians working in the drug and alcohol service within the hospital where the research took place. The measure asks the respondent about a wide range of substances, (please see appendix M for an example of this measure). Two further questions were also asked to determine insight into the relationship between substance use and mental health problems 1) whether the respondent perceives a relationship and, 2) whether significant others perceive a relationship between them.

Mental state

The measure for mental state in the present study was gathered via a notes review using the notes taken by the admitting psychiatrist on the day of admission. The classification for diagnosing mental illness by this hospital is the ICD-10 (World Health Organisation). Therefore, categories of mental state on admission used for the study were; schizophrenia, bi-polar disorder, depression, unspecified psychosis and a category for any other type of mental illness. Psychiatrists admitting patients used all available information from previous contact with mental health or legal services and any collateral information from relatives or friends.

1.8 The research setting

Redford Lodge Hospital comprises of two medium secure units and an open unit specialising in forensic rehabilitation. The hospital is based in North London and

receives referrals from a wide range of health authorities throughout London. All patients have access to multidisciplinary care management. A full time patient advocate sees patients at the request of patients and staff. Patients have access to the community and various facilities available locally. Patients have varying levels of supervision on the wards and outside the hospital depending on assessments of mental state and behaviour. The average length of stay at the hospital is 17 months.

1.9 Aims of the Present Study and Research Questions

Returning to the questions asked in the 1970's (Coccozza and Steadman 1978; 1976) it appears that violence prediction has become a scientific possibility given recent developments (Douglas et al. 1999). The overwhelming impression from this review of the violence prediction literature is that there are gains for clinicians in practice if the findings of state of the discipline research are incorporated into everyday clinical practice (Douglas et al. 1999). Exploring the clinical utility of empirically validated research tools in a clinical setting is the first step in incorporating this work into clinical practice. Practitioners who work with mentally disordered and violent patients should investigate the predictive powers of a selection of violence risk assessment schemes as an adjunct to good, even ethical (Douglas et al. 1999) clinical practice.

The present research aims to investigate the possibility that a number of risk assessment tools are able to accurately predict violence during the first month of admission for male psychiatric inpatients resident on a secure unit. Bearing in mind the methodological issues in risk assessment research described above a range of predictor variables will be examined using a number of measures. The HCR-20, a broad ranging assessment tool will be administered to 40 men. Then depending on

consent to further assessment, a more detailed assessment of a sub-group of this initial sample will explore a range of variables including impulsivity (BIS-10 and EIS), anger (NAS and STAXI) and psychopathy (PCL-R).

In order to ensure good measurement of violence a standardised scale of violence was used (OAS). In order to ensure the measurement of behaviour was continuous the daily clinical record for each patient in the study was reviewed to complete the OAS for any incident occurring during the first month of admission.

All attempts were made to avoid a constricted sample, therefore, as many subjects as possible were recruited. Unfortunately, at the time of recruiting patients only 4 patients of a total of 58 were female, therefore only males at this site were recruited as it was not possible to recruit enough female patients to usefully examine interactions between predictors of violence and gender.

The aim of the study was to determine whether some measures provide good predictions of inpatient violence. A second aim was to examine which measures produce the most useful information when administered to a forensic inpatient sample. The methods of administration include self-report and notes review measures.

Preliminary research questions are as follows:

Is age associated with violence in the first month of admission? Are HCR-20 scores associated with violence during the first month of admission? Specifically, it is predicted that:

- Age on admission will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Scores on the HCR-20 will be associated with scores on the Overt Aggression Scale for the first month of admission
- That the sub-scales of the HCR-20 will independently be associated with scores on the Overt Aggression Scale for the first month of admission

Do particular individual items on the HCR-20 scale have associations with TAS scores on the Overt Aggression Scale for the first month of admission? Specifically, it is predicted that:

- That young age (under 20) at first violent incident will be associated with scores on the Overt Aggression Scale for the first month of admission.
- That problematic substance use will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Early maladjustment will be associated with scores on the Overt Aggression Scale for the first month of admission.
- That violent behaviour prior to admission will be associated with scores on the Overt Aggression Scale for the first month of admission.
- That evidence of a history of unresponsiveness to treatment efforts e.g. refusal of therapeutic opportunities will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Active symptoms of mental illness on admission will be associated with scores on the Overt Aggression Scale for the first month of admission.

For men who choose to complete self-report measures, are there any associations between the scores on these measures with scores on the Overt Aggression Scale for the first month of admission. Specifically, it is predicted that:

- Scores on the Psychopathy Checklist –Revised will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Scores on the Novaco Anger Scale will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Scores on the Spielberger State Trait Anger Inventory will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Scores on the Eysenck Impulsiveness Scale will be associated with scores on the Overt Aggression Scale for the first month of admission.

- Scores on the Barratt Impulsivity Scale will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Self-reported use of amphetamines will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Self-reported use of opiates will be associated with scores on the Overt Aggression Scale for the first month of admission.
- Self-reported use of alcohol will be associated with scores on the Overt Aggression Scale for the first month of admission.

CHAPTER 2: METHOD

2.1 Overview

A notes review was carried out for 40 male inpatients resident at a North London Psychiatric Hospital. Eighteen of these 40 men consented to complete self-report measures. Participant's behaviour on the ward was measured during the initial month of hospitalisation. The daily clinical record for each patient was used to collect the information necessary to complete a standardised scale to measure overt aggression. Presence of psychopathy, drug and alcohol use history and historical information were also assessed via a review of intake notes.

2.2 The Setting

The site where the study took place is one of a number of private sector hospitals in Britain. The hospital treats publicly funded patients only. The criteria for admission to a secure ward at the hospital is the presence of behaviour that poses a danger to self or others. All patients on secure units are detained under a section of the Mental Health Act (1983). A small minority, (2%), of the hospital population at any time are resident informally as they prepare for discharge from the open Rehabilitation Unit.

Each unit has 20 beds and has a designated Multi-Disciplinary Team. Each MDT consists of a Consultant Psychiatrist and an Associate Specialist in Psychiatry, a Social Worker, an Occupational Therapist, a Psychologist supported by an Assistant Psychologist and a number of Qualified Nurses. There is a specialist Drug and Alcohol Nurse who provides input across all three units, as does the Patient Advocate mentioned earlier.

Each patient resident on a secure unit in the hospital has a private room. Access to his or her room is provided for a specified time during each day for approximately 2 hours. Otherwise, patients remain in the day area on a different floor. Smoking is only permitted in the smoking room. Televisions, quiet rooms and games such as pool and table tennis are available at all times to patients. There is a small gym on site with access restricted to times when an instructor is available.

A structured system of leave operates throughout a patients stay on a unit. Initially patients are granted leave to remain in the grounds of the hospital, then they are given leave to visit the shops adjacent to the hospital site. Leave to visit further afield can be given if patients demonstrate the skills needed to use lower levels of leave appropriately. The leave system is further graduated by introducing the presence or absence of a member of staff to accompany patients on leave.

The majority of patients sleep on sofas in the television and other rooms when not engaged in therapeutic activities, particularly those currently taking medication with a sedative effect. However, there are a number situations that bring patients into close contact with each other. Meals are served in a dining area, patients queue to receive their food and share one of a number of tables. During any 24 hour period meal times require patients to associate with each other within a comparatively small space. Other situations that require patients to compromise is the choosing of television programmes. Patients have access to the controls of the television at all times and nursing staff are only involved in the selection of programmes if conflict arises.

There are two kinds of meetings on each unit that patients are expected to attend. One is a community meeting, this meeting lasts for one hour and is designed to allow patients to raise any issues they have with fellow patients or members of staff. This meeting happens twice a week on two of the units and once a week on a third unit. Additionally, members of staff raise or communicate important matters to patients at these meetings. In particular, feedback on issues raised at previous meetings is a frequent topic.

The second meeting is the planning meeting, this happens each morning and lasts fifteen minutes. Patients are encouraged to attend this meeting to communicate their preferences and plans for the day ahead. An Occupational Therapist attends this meeting to highlight the activities and sessions available each day.

All units are staffed using a shift system there are two day time shifts and one night shift. For each day shift 6 members of staff are on duty, a minimum of three of these are qualified nursing staff the remaining members of staff are support workers. Each unit has three staff members that work from 9am until 5am, these are the Charge Nurse and two activity coordinators responsible for arranging diversional activities and daily outings for patients.

During night shifts from 8pm until 7am four staff members, two of whom are qualified nurses, are on duty. During extended periods of unsettled behaviour amongst patients, extra staff are recruited to carry out close observations of individual patients.

Approximately 30% of these staff members are recruited through nursing agencies on a temporary basis.

On taking up permanent employment at the hospital all staff attend an induction course lasting one and a half weeks. The training provided includes: methods of verbal de-escalation of angry scenarios, a brief introduction to each discipline within the hospital and what each service offers to patients, a brief introduction to the Mental Health Act and some health and safety information along with some details about the structure and hierarchy of the company.

Overall, of all members of shifts on wards approximately 80% have received formal training in control and restraint techniques. Courses are run regularly on site to initiate and update the training of permanent members of the nursing team. Members of the various disciplines that make up the Multi-Disciplinary Teams are routinely offered Breakaway technique courses on beginning employment at the hospital.

The following figures describe the current patient group and are calculated on an inpatient population of fifty-eight people. The hospital receives referrals from more than 20 different funding authorities throughout the UK. The majority of admissions are from other psychiatric hospitals (70%), the second largest group are admitted from prisons (26%), the remaining 4 % are equally admitted from home or special hospitals.

The average stay at the hospital is 17 months although this varies across units. The longest average stay (21 months) occurs on the rehabilitation unit. The shortest average stay (12 months) is found on the secure ward that treats males only and admits the majority of patients from the criminal justice system. The average age of patients is 22.25 years.

The distribution of gender across this group was predominantly male (93%). The majority of patients are detained under a section of the Mental Health Act (1983). Two percent of patients were recorded as voluntarily resident, 50 % were detained under a civil section, whilst 48% were subject to a Home Office section, indicating that similar numbers of patients were drawn from a forensic and a non forensic psychiatric population.

The ethnic origin of patients within the hospital demonstrates that the largest group identifies itself as white (42%). Those identifying as “Black Caribbean” make up 19%, 14% identify as “Black African” and 11% as “Black Other”. Smaller groups include “Other” as 10% and “European” as four percent.

In terms of marital status the largest group of patients reported themselves as single (90%), equal minorities reported themselves as divorced (4%) and separated (4%) and one patient reported being married (2%).

2.3 Sampling

Participants were recruited by the researcher during visits to each ward. Eligibility for this study was determined by: capacity to consent to take part in research as assessed by qualified nursing staff, male gender and no ongoing clinical contact with the researcher. Based on these criteria forty of the total available 58 patients were identified as potential candidates. Notes reviews to complete the HCR-20 scores for these men were conducted. Also OAS scores were obtained for behaviour during the first month of admission for all men. Each of the forty men was then approached by the researcher and asked to complete self-report measures as part of a research project running at the hospital. Of these forty patients, eighteen agreed to complete self-report measures. Two of these eighteen men completed the PCL-R interview only.

2.4 Participants

The participants, male inpatients resident in a hospital in North London, were drawn from three treatment units, two secure and one open. If interested on initial approach, an appointment was made for a ten-minute session to explain the nature and aims of the research and the confidentiality boundaries. Each patient was then given an information sheet (see Appendix F) and the name of the patient advocate on site at the hospital. A second appointment was arranged for one week later to allow time to seek further information and make a decision. Information was also provided to ward staff should patients choose to talk through their decision with a member of the nursing team. Each of the eighteen participants signed a consent form (see Appendix E) and met with the researcher to complete the self-report measures described earlier in the

Introduction (see appendices G-M). Each participant was provided with a note pad and a pen to keep a record of appointment times and/or details of sessions with the researcher, if they so wished.

2.5 Ethical Considerations

Ethical approval for the project was given by the Enfield and Haringey Health Authority Local Research Ethics Committee (please see Appendix A for letter of approval).

Participants spent ten minutes with the researcher to read an information sheet before they were asked to take part (see Appendix F). If the participants preferred, the information sheet was read aloud to him and any questions were then answered. This information described the research project and explained the limits of confidentiality of information provided for research using a question and answer format. The sheet also stated that participation was voluntary, was not part of therapy, that there were no compulsory questions, and that participants could withdraw from the project at any time. Patients were given information about the hospital advocate and in some cases the researcher contacted the advocate and asked her to see potential participants.

Following a period (one week) to consider participation each potential participant met with the researcher a second time, any questions about the research were answered at this stage. Prior to taking part in the research project each participant signed a consent form (please see Appendix E). All participants were informed that they would be able to meet with the researcher at some point in the future to hear about the

results of the research. Patients were able to contact the researcher at any time during their participation as she was on site weekly for the period of the research and some months after that.

2.6 Design

All participants were asked to complete four self-report measures. All questionnaires were completed in the presence of the researcher. Participants were able to take breaks or shorten research sessions as necessary. All but two of the participants were able to complete these measures before beginning the interview for the PCL-R. These two participants were unable to complete the self-report measures at all.

Research sessions took place in the interview rooms on each of three units. Participants were offered tea, coffee and biscuits during research sessions. Occasionally research sessions clashed with one of the therapeutic opportunities available on the ward, in these circumstances sessions were re-scheduled for another time. There were also occasions when participants did not feel like meeting the researcher, again replacement sessions were organised.

At the beginning of sessions, participants were reminded of the confidentiality boundaries that had been agreed with the local research ethics committee and the hospital management team. Participants were reminded of these boundaries at the start of sessions to allow for any memory difficulties or fluctuations in mental state that may have been experienced by participants between sessions. In practice, when the confidentiality boundaries necessitated communication with nursing staff this was

always achieved through a joint meeting between the researcher, the participant involved and a senior member of the nursing team on the unit.

The majority of sessions with participants lasted one hour, two participants chose to have 20 minute sessions. Overall, the time spent collecting data from each participant ranged from one hour to eight hours with a mean length of time of approximately 5 hours. Occasionally participants would deviate significantly from the task at hand, e.g. to explain extensive delusional systems, or became emotional in response to interview material. In these cases all participants were given time to express their feelings and offered time with a member of nursing staff. On all occasions participants were keen to continue with the interview and came back to the task.

2.7 Data Collection

Self-report Measures

Participants were offered the choice of completing questionnaires either with or without assistance. If assistance was required the questions were read out to the participant and the participant pointed to or verbalised one of all possible responses printed on a separate piece of paper. After the completion of each questionnaire participants were asked if they had any questions about the measures.

Interview Measure

A semi-structured format was followed during interviews. A number of participants were unable to provide long and full answers. Items requesting information about offending history were often not answered by participants, as were items requesting

that participants comment on their emotional responses to bereavement. In cases where questions were not answered, the researcher ascertained the extent of the information that participants wanted to keep private. An agreement was made with participants that they could say “no” or “skip that” to any questions they felt they could not answer.

Following the completion of interviews for the PCL-R (see appendix I), two senior clinicians rated the items on the PCL-R scale using interview transcripts and medical notes. A Kappa of .88 was calculated on the scores generated by both raters. In order to reach a consensus, a meeting was held between the raters and decisions were made according to discussions of individual cases. This strategy was taken because one of the clinicians was working at the research site and had a longer term broader knowledge of the material available for participants.

Notes Review Measure

A member of clinical staff at the hospital carried out a review of participant’s notes to provide the data necessary to complete HCR-20 measures. This strategy was chosen to prevent the HCR-20 notes review influencing the interview process conducted by the researcher.

Behavioural measure

The daily clinical record for each participant was examined retrospectively to determine the presence or absence of violent incidents as defined by the Overt Aggression Scale (OAS). The initial month of hospitalisation was the time period

examined by the notes review. For each incidence of violence an OAS score sheet was completed. This information provided details of the nature and frequency of violence during the period of interest. This method of data collection was chosen because asking nursing staff to complete this measure on a daily basis required extra time that was not available to nurses. Retrospective examination of notes was thought to preserve reliability and ease the pressure on nursing time. The researcher completed the notes review for this measure after the completion of the PCL-R interviews.

Mental State Measure

Each participant's mental state was assessed at admission by the medical team at the hospital. This diagnosis was used as a categorical measure of mental state for the purposes of the research project. Psychiatrists used the ICD-10 (WHO 1992) to diagnose the patients they saw on admission.

Data Analysis

The data obtained during the study was analysed using the Statistical Package for the Social Sciences Version 10 (SPSS-10). Initially descriptive analyses were undertaken to explore the characteristics of the sample. A regression analysis was carried out to investigate the ability of the HCR-20 scale to predict violence during the first month of admission for 40 men. For other self-report measures correlations were performed to investigate the presence of bi-variate relationships between self-report scales and violence during first month of admission.

CHAPTER 3: RESULTS

3.1 Overview

The data set was analysed using SPSS version 10 for Windows. The results are presented in four parts: the first part screens the data for reliability, missing data and assumptions of multi-variate statistics. The second part provides descriptive statistics for the whole sample including a comparison of men who agreed to complete self-report measures with those who did not, from here on these groups will be referred to as responders and non-responders respectively. The third part examines the relationships between HCR-20 scores and violence for the whole sample. The fourth part concludes the results chapter by examining associations between self-report measures and inpatient violence for responders.

3.2 Part 1: Screening

Analyses of reliability

Table 1 details the Cronbach's alpha co-efficients calculated for all measures used in the study. The alpha co-efficients for the HCR-20 scale, the PCL-R scale, the H subscale, the C subscale, the Overt Aggression Scale, Barratt Impulsivity Scale, the Novaco Anger Scale, the State-Trait Anger Scale and the Eysenck Impulsiveness Scale were all satisfactory (alpha scores > .58; Tabachnick and Fidell 1996). One measure failed to achieve satisfactory alpha values, this was the R scale of the HCR-20. SPSS allows the deletion of one scale item at a time to search for the best alpha co-efficient for a given set of scores. Following this procedure, the R scale achieved a Cronbach's alpha equal to .4095 when item five was deleted (ability to cope with stress). This unsatisfactory alpha co-efficient means that caution must be used when

interpreting analyses using this scale. Wherever scales have been adjusted or transformed they are annotated accordingly in table 1.

The Inter-Rater Reliability for the PCL-R

An inter-rater reliability analysis was carried out on the scores generated by two independent raters who rated each of the 18 participants who provided the information required to score the PCL-R. In this case the measure of agreement chosen was Kappa and this was equal to .880 for 360 valid cases. One of the two raters for this measure had received a three day training course on the administration of the PCL-R. The second rater had not attended training, but was a Consultant Clinical Psychologist and met the requirements for purchase of the measure. This Kappa value demonstrated a high level inter-rater reliability, despite the differences in training between the raters.

Missing data.

For the HCR-20 scale it was not possible to assess impulsivity and psychopathy for this measure from the notes review. The reason for this was that all information was drawn from admission summaries for these men. At this stage of admission assessment of personality traits was not conclusive. These items were pro-rated for each participant according to the instructions in the test manual (Webster et al. 1997).

Missing data on the PCL-R scale was due to lack of information available at interview or in medical notes. In accordance with recommendations outlined in the test manual (Hare, 1991) these items were scored as omissions and the scores for factor one,

factor two, and total PCL-R score were prorated. Amongst the self-report measures two subjects refused to complete the questionnaires, hence there is substantial data loss for these two cases. These cases were excluded from analysis of self-report data, but are included in analyses using PCL-R scores since both men participated in the interview for this measure.

Outliers

Outliers were defined as scores falling three standard deviations below or above the norm (Bentler, 1989). Examination of the distribution of scores on all measures revealed outliers for three scales; the Overt Aggression Scale, the State Anger Scale and the Anger Expression Scale. Outliers for the State Anger Scale and the Overt Aggression Scale were at the high end of the scales, whilst outliers on the Anger Expression Scale were at the low end. These values were not deleted. Raw scores were assigned that were one unit larger or smaller than the next most extreme score in the distribution. Where there was more than one outlier, new values were assigned consecutively according to the size of outliers (Tabachnick and Fidell 1996). Following these re-assignments figures for skewness and kurtosis were calculated for all measures and are detailed in table 2.

Assumptions of multivariate statistics

The data obtained using each measure was examined for normality of distribution. Assumption of normality was made if dividing the figures for kurtosis and skewness by their respective standard errors yielded the obtained values of less than 1.96. The means, standard deviations, range, skewness and kurtosis for all measures are

presented in table 2. Results for all but three measures were normally distributed with skewness and kurtosis figures within acceptable ranges. Measures with unacceptable skewness and kurtosis were; the Overt Aggression Scale, the Risk Management (R) sub-scale of the HCR-20 scale and the State Anger Scale from the Spielberger Anger Expression Inventory administered to 16 participants. Where scales were adjusted for skewness and kurtosis the transformed and un-transformed values are shown in table one.

Consideration was given to the possibility of transforming the OAS scores to achieve a distribution closer to normal, however, due to the high number of zero scores transformations were not considered appropriate. Please see Figures 1.1 and 1.2 for a comparison of distributions of OAS scores before and after adjustment for outliers. Low base rates of serious violent incidents have been a problem for many researchers investigating violence prediction (Monahan and Steadman 1994), however, low rates are otherwise desirable and represent a positive clinical outcome for the service. This issue will be addressed in the discussion.

Table 1. Means, standard deviations and reliability coefficients for each measure.

Measures	Mean	N	SD	Cronbach's alpha
HCR-20	26.1	40	6.21	0.8175
H SCALE (HCR-20)	14.5	40	3.60	0.7307
C SCALE (HCR-20)	5.95	40	2.73	0.7625
R SCALE (HCR-20) (Not transformed and 1 item deleted)	6.30	40	1.50	0.4095
PCL-R	15.21	18	7.58	0.5806
PCL-R Factor One	6.54	18	3.91	0.7049
PCL-R Factor Two	7.61	18	4.40	0.6951
NAS	162.18	16	39.57	0.9998
STATE ANGER	12.06	16	3.88	0.9016
TRAIT ANGER	15.68	16	4.22	0.6180
ANGER IN	14.68	16	4.49	0.7420
ANGER OUT	14.18	16	4.32	0.6943
ANGER CONTROL	24.68	16	5.18	0.7638
ANGER EXPRESSION	22.56	16	4.67	-----
EIS	28.56	16	8.53	0.9977
BIS-10	67.06	16	10.04	0.9965
OAS	6.87	40	8.40	0.6417

Table 2. Means, standard deviations, range, skewness and kurtosis for all measures.

Measures	Mean	N	SD	Min.	Max.	Skewness (Standard error in brackets)	Kurtosis (Standard error in brackets)
HCR-20	26.1	40	6.21	8	38	-.596 (.374)	.819 (.733)
H SCALE	14.5	40	3.60	5	20	-.433 (.374)	-.176 (.733)
C SCALE	5.95	40	2.73	0	10	-.309 (.374)	-.708 (.733)
R SCALE (Untransformed and 1 item deleted)	6.30	40	1.50	2	8	-.970 (.374)	.591 (.733)
R SCALE (Transformed and 1 item deleted)	8.11	40	.37	7.17	8.59	-.570 (.374)	-.232 (.733)
Self-report Measures Administered to 18 participants							
PCL-R	15.21	18	7.58	0	29	-.126 (.536)	-.128 (1.038)
PCL-R Factor One	6.54	18	3.91	0	13	-.441 (.536)	-.594 (1.038)
PCL-R Factor Two	7.61	18	4.40	0	14	.052 (.536)	-1.104 (1.038)
NAS	162.18	16	39.57	99	223	-.058 (.564)	-1.081 (1.091)
STATE ANGER (adjusted for outlier)	12.06	16	3.88	10	21	1.717 (.564)	1.425 (1.091)
TRAIT ANGER	15.68	16	4.22	10	22	.140 (.564)	-1.250 (1.091)
ANGER IN	14.68	16	4.49	8	21	.199 (.564)	-1.353 (1.091)
ANGER OUT	14.18	16	4.32	8	20	.097 (.564)	-1.448 (1.091)
ANGER CONTROL	24.68	16	5.18	15	32	-.042 (.564)	-.626 (1.091)
ANGER EXPRESSION	22.56	16	4.67	16	31	.218 (.564)	-.975 (1.091)
EIS	28.56	16	8.53	12	39	-.482 (.564)	-.570 (1.091)
BIS-10	67.06	16	10.04	49	83	-.316 (.564)	-.935 (1.091)
Measure of violence during first month of admission administered to 40 participants							
OAS (adjusted for outliers)	6.87	40	8.40	0	25	.987 (.374)	-.460 (.733)

Figure 1.1: A histogram displaying the distribution of TAS scores obtained on the Overt Aggression Scale during the first month of admission for 40 male forensic inpatients before adjustment for outliers.

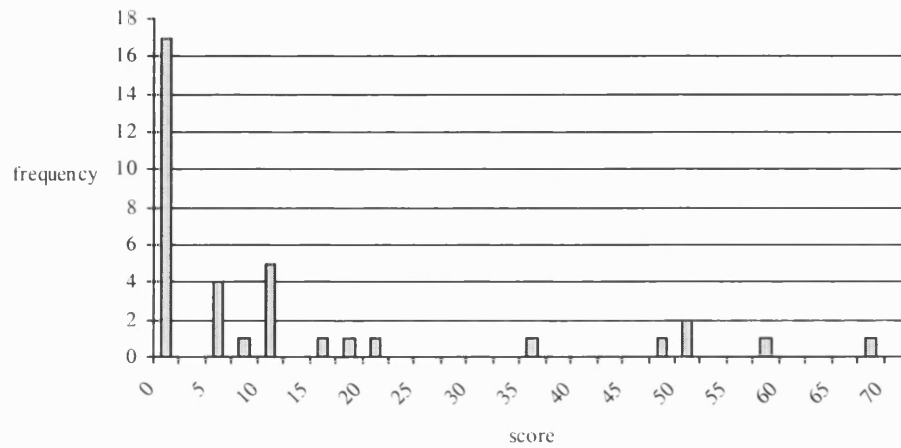
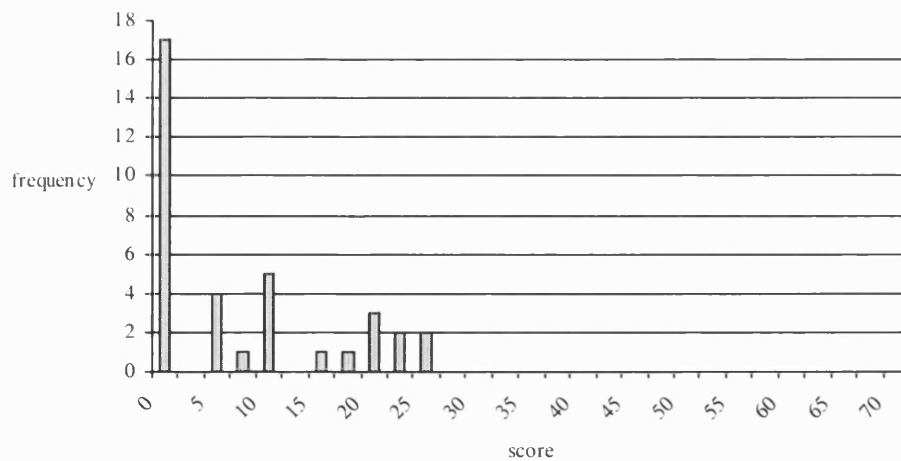


Figure 1.2: A histogram displaying the distribution of TAS scores obtained on the Overt Aggression Scale during the first month of admission for 40 male forensic inpatients after adjustment for outliers.



To split the sample based on no violence versus any violence was not considered to be clinically meaningful. The split between low and high levels of violence naturally occurs at around a score of 12 on this scale. Such a split would not have provided equal groups of participants for analysis. The difference between a case scoring 15 and a case scoring 25 is quite substantial. In the light of the adjustments made for outliers which reduced the highest score of 67 to 25, allocating scores of 15 and 25 to the same group would have been a misrepresentation of true clinical presentations. Therefore, the scale detailed in figure 1.2 has been used in the following data analyses.

The second measure that yielded unsatisfactory figures for skewness and kurtosis was the R scale of the HCR-20 scale. This unsatisfactory distribution may have been due to the low number of items on the scale i.e. five items. A reflected square root transformation to reduce the skewness and kurtosis was carried out. The R scores were then reflected back in order to simplify the direction of the scores for further analyses. Following the transformation, the figures for skewness and kurtosis were acceptable and are represented in table 2 as “R Scale-transformed and 1 item deleted”. This transformation does not alter the relationships between individual scores but allows the scale to be used for later parametric analyses.

The third measure that provided unacceptable figures for skewness and kurtosis was the State Anger Scale from the Spielberger Anger Expression Inventory. Due to the high frequency of the same score (12 of 16 men scored 10 on this scale) transformations were not successful in achieving satisfactory levels of skewness and

kurtosis. Therefore, results derived from analyses including this scale must be treated with caution.

In order to ensure that factors examined in a regression analysis were not correlated with each other, a correlation matrix was produced for the sub-scales of the HCR-20. In line with standards described by Tabachnick and Fidell (1996) two variables were considered multi-collinear if they had a bi-variate correlation above .70. A correlation matrix is presented in table 3 to represent a test of multi-collinearity. No correlation between sub-scales of the HCR-20 reached .70 or above, therefore no adjustments were made for multi-collinearity.

Table 3: Pearson product moment correlation co-efficients for sub-scales of the HCR-20.

	Historical sub-scale	Clinical sub-scale	Risk sub-scale (1 item deleted and transformed)
Historical sub-scale	1.0		
Clinical sub-scale	.299	1.0	
Risk sub-scale (1 item deleted and transformed)	-.393	-.484	1.0

3.3 Part 2: Descriptive Statistics

Sample Characteristics

The total sample comprised 40 male inpatients drawn from a North London psychiatric hospital. All participants were detained under a section of the Mental Health Act (1983). Ten of the 40 participants were resident on an open unit at the

time of the study. The data for violence during the first month of admission was collected retrospectively via a review of nursing notes. At the time of admission all participants except one were resident in secure accommodation. Approximately forty five percent of participants described themselves as of European UK origin on admission to hospital, 32.5% as Afro-Caribbean, 10% as African, 5% as Asian and 7.5% as Other Ethnic Origin. Two participants had been illegally resident in the UK prior to admission; all other participants were UK residents prior to admission. The characteristics of the sample are detailed in table 4.

Table 4. Sample characteristics for 40 male forensic psychiatric inpatients and for a sub-sample of these men who consented to complete self-report measures.

TOTAL SAMPLE (n=40)			RESPONDERS (n=18)	
Characteristic	Number of Participants (n=40)	Percentage of sample (n=40)	Number of Participants (n=18)	Percentage Of sample (n=18)
Marital status				
Single	35	87.5%	14	77.8%
Married	2	5%	2	11.1%
Separated / Divorced	3	7.5%	2	11.1%
Ethnic Origin				
European UK	18	45%	8	44.4%
Afro-Caribbean	13	32.5%	5	27.8%
African	4	10%	3	16.7%
Asian	2	5%	2	11.1%
Other	3	7.5%	0	---
Primary Diagnosis on admission				
Schizophrenia	32	80%	13	72.2%
Bipolar Disorder	3	7.5%	3	16.7%
Depression	3	7.5%	2	11.1%
Other	2	5%	0	---
Insight on admission				
None	23	57.5%	8	44.4%
Partial	8	20%	4	22.2%
Good	8	20%	5	27.8%
Not assessed	1	2.5%	1	5.6%
Phase of illness on admission				
Acute	31	77.5%	14	77.7%
Under treatment	8	20%	4	22.3%
Not assessed	1	2.5%	0	---
Level of nursing Observations on Admission				
Continuous in isolation	1	2.5%	1	5.6%
Continuous on ward	11	27.5%	5	27.8%
15 minute checks on ward	22	55%	11	61%
No observations	6	15%	1	5.6%

As can be seen from table 4, the majority of men in the sample were single and this was true for both the whole sample and the sub sample of responders (87.5% and 77.8% respectively). The majority of both samples were of European UK origin (45% in the whole sample and 44.4% in the responder group), the second largest population in each group was Afro-Caribbean, comprising almost a third of the whole sample (32.5%) and just less than a third of the responder sample (27.8%), African and Asian groups made up larger proportions of the responder sample (16.7% and 11.1% respectively) than they did in the whole sample (10% and 5% respectively).

The majority of men in each group had a primary diagnosis of schizophrenia on admission 80% in the whole sample and 72.2% in the sub sample of responders. With regard to insight into illness on admission over half of the whole sample were considered to have no insight on admission (57.5%), whilst less than half of responders were thought to have no insight (44.4%). The majority of both groups were considered by the admitting psychiatrist to be experiencing an acute phase of illness, the percentages for the whole and responder groups were 77.5% and 77.7% respectively. Large minorities of each group were considered to be responding to treatment on admission, 20% of the whole sample and 22.3% of the responder sample. The level of observations allocated by the psychiatrist on admission was thought to indicate how dangerous the team considered a new admission. For the majority of men in each group 15-minute checks were thought to be adequate, (55% of whole sample and 61% of responder group). Continuous observations on the ward

were allocated to 27.5% of the whole sample and 27.8% of the responder sample.

Only one man was nursed in isolation on admission, this participant was a responder.

In order to evaluate how the sample in the current study compare to the wider populations for these measures the mean scores for the samples tested were calculated. Where norms and cut-offs are available they are included to enable a comparison of scores. See table 5 for details.

Table 5. Means and descriptions of scores for self-report and HCR-20 scores for sub sample of men who consented to interview and questionnaire assessment (n=16)

Measure	Number of Participants	Percentage of sample	Mean Score	Range	SD
HCR-20					
Scores above 20	13	83.3%	27.61	21-39	5.99
Scores below 20	3	16.7%	15.66	10-20	5.13
All scores	16	100%	25	10-39	7.26
PCL-R total					
Scores above 25	2	11.2%	28	27-29	1.41
Scores below 25	14	88.8%	13.79	0-23	6.48
All scores	16	100%	15.21	0-29	7.26
BIS-10					
Motor sub-scale (Psychiatric inpatient mean = 18)	16	100%	24.68	18-33	3.75
Attentional sub-scale (Psychiatric inpatient mean = 19)	16	100%	15.62	9-21	3.63
Non-planning sub-scale (Psychiatric inpatient mean = 22)	16	100%	27.12	20-41	6.32
All scores (Psychiatric inpatient mean = 59)	16	100%	67	49-83	10.04
EIS					
All Scores (mean for ages 20-39 = 28.09)	16	100%	28.5	12-39	8.53
NAS total					
Scores above the mean (155.30)	10	62.5%	186.78	156-223	24.73
Scores below the mean (155.30)	6	37.5%	121.16	99-153	19.15
All scores	16	100%	162.18	99-223	39.57
STAXI					
Anger Expression Scores above 75 th percentile	6	37.5%	-----	80 th –95 th	-----
Anger Expression Scores below the 75 th percentile	10	62.5%	-----	40 th –74 th	-----
All scores	16	100%	55.62	47-66	5.81

From table 5 it can be seen that the majority of men in the sample of 40 patients scored above 20 on the HCR-20. This is the cut off recommended by Douglas et al. (in press) for caseness. People scoring above 20 are 6 to 13 times more likely to be violent than people scoring below 20. For PCL-R scores the vast majority of the respondents are below the recommended UK cut off for psychopathy (Cooke and Michie 1999).

The scores on the BIS-10 for responders are above the mean for psychiatric inpatients supplied by Barratt (1994) of 59. For the EIS, the mean score for the sample is close to the mean score of 28.09 given for a normal population of males reported by the authors in the manual for the scale. Scores on the NAS are much higher than the standardisation mean reported by Novaco (1990). For the STAXI scores above the 75th percentile are reported to correspond with significant disturbances in functioning. In the sample for the current study only 6 men scored above the 75th percentile suggesting some impairment of functioning in the group but not for the majority of men.

Comparison Between Responders And Non-Responders

Of the 40 men approached, 18 consented to be interviewed and 16 of these completed a range of self-report measures. Table 4 above details frequencies of sample characteristics for this sub-sample alongside characteristics for the whole sample.

Demographic information and HCR-20 scores were available for all 40 men and therefore comparisons were made between the responders (n=18) and the group of

non-responders (n=22) in order to explore any differences between the groups. The aim of this exploration was to examine how relevant the findings for responders are to the larger sample of non-responders. For this comparison, un-transformed scores were used. The rationale for this was that the individual item scores of the HCR-20 were used to examine the distribution of factors across groups. A Chi-square analysis does not require assumptions of normality, therefore the scores were left as originals.

Chi squared tests were performed to explore differences between responders and non-responders on variables relevant to violent behaviour, such as young age at first violent incident ($\chi^2 = .175$; $p = .676$), early maladjustment ($\chi^2 = 4.55$; $p = .033$), active symptoms of mental illness on admission ($\chi^2 = 0.001$; $p = 0.970$) and violence prior to admission ($\chi^2 = .925$; $p = .336$). One significant difference was found regarding early maladjustment, suggesting that the non-responder group experienced significantly more early maladjustment than the responder group.

Differences in levels of violence during the first month of admission between the groups were also explored using t-tests. For this analysis OAS scores corrected for outliers were used. HCR-20 scores used in this analysis had one item deleted from the R scale to improve the alpha value. The variables examined were; age ($t = -.808$; $p = .424$), scores for violent behaviour during the first month of admission ($t = -.339$; $p = .736$), total HCR-20 scores ($t = -2.606$; $p = .013$). One significant difference was found, scores on the HCR-20 scale were significantly higher for non-responders than

for responders. Please see table 6 for means and standard deviations for the variables described.

Table 6: Means and Standard Deviations for a responders and non-responders.

NON-RESPONDERS			RESPONDERS	
Variable	Mean for non-responder group (SD in brackets)	Range for non-responder group	Mean for responder group (SD in brackets)	Range for responder group
Age	28.59 (7.73)	20 – 46	26.67 (7.18)	18 – 39
Violence during first month of Admission	6.68 (8.88)	0 – 25	5.77 (7.73)	0 – 24
HCR-20 total scores	28.91 (4.36)	23 – 38	24.11 (7.18)	8 - 37

In summary the results obtained suggest that the two groups differed significantly in two ways; the non-responders experienced higher levels of early maladjustment and scored more highly on the HCR-20 total scale.

3.4 Part 3: Associations between Age, HCR-20 Scores and Inpatient Violence

A series of analyses on the data for the whole sample were carried out to investigate any relationships between age, HCR-20 scores and violence during first month of admission. For the following analyses, transformed R scores and measures adjusted for outliers will be used.

3.4.1 Age

A correlation between age on admission and scores on the OAS for first month violence did not indicate there was any relationship between them (Pearson's $r = -0.055$; $p = 0.734$).

3.4.2 HCR-20 SCORES

A series of correlations were performed to ascertain whether there was a relationship between HCR-20 total and sub-scale scores and violence in the first month of admission. Significant relationships were found between first month violence and: total HCR-20 scores (Pearson's $r = 0.558$; $p < 0.001$), scores on the H scale of the HCR-20 (Pearson's $r = 0.438$; $p = 0.005$), scores on the C scale of the HCR-20 (Pearson's $r = 0.430$; $p = 0.006$), scores on the R scale of the HCR-20, (Pearson's $r = 0.471$; $p = 0.002$).

In order to investigate how each sub-scale of the HCR-20 contributed to the explanation of the variance in first month violence a block regression was carried out. Sub-scales were entered according to the size of the association revealed through correlations with first month violence. Table 7 details the findings of this regression.

Table 7. R square values and change statistics for a block regression carried out to explore the independence of effects for H, then C then R scales on first month violence for 40 male inpatients.

Model	R	R Square	R Square Change	F Change	df1	df2	Sig. F Change
1. Historical items total	.438	.192	.192	9.039	1	38	.005
2. Risk items total	.540	.292	.100	2.215	1	37	.028
3. Clinical items total	.571	.326	.034	1.800	1	36	.188

As can be seen from table 7 above, the R scale adds significantly to the power of the H scale bringing the amount of variance accounted for up to 29.2%. The C scale appears to add to the prediction of first month violence but not significantly so. Therefore, in order to investigate whether the combined strength of the R and C scales of the HCR-20 had an effect in addition to the H scale that was greater than the R scale alone a second block regression was carried out. On this occasion the R and C scales were combined as one factor and entered after the H scale. Table 8 details the findings of this regression.

Table 8. R square values and change statistics for a block regression carried out to explore the independence of effects for H, then C and R scales combined on first month violence for 40 male inpatients.

Model	R	R Square	R Square Change	F Change	df1	df2	Sig. F Change
1. Historical items total	.438	.192	.192	9.039	1	38	.005
2. Risk management items total (transformed) and Clinical items total	.571	.326	.134	3.564	2	36	.039

From table 8 it would appear that the combined C and R scales do add significantly to the predictive power of the H scale which consistently predicts 19.2% of the variance in first month violence. It worth noting that the addition of the C and R scales bring the amount of variance accounted for up to 32.6%, and that this difference is significant.

Current literature suggests that a range of variables are thought to predict violence. These variables are incorporated into the H scale of the HCR-20 (Webster et al. 1997). These variables were therefore used to split the group before comparing TAS scores during the first month of admission across the sample. The variables examined were: young age at first violent incident, problematic substance use, severe early maladjustment, presence of active symptoms of mental illness on admission and previous violence. A t-test was also carried out using the variable “observable active symptoms of mental illness” collected from notes review but not required for the

HCR-20. This variable reflected whether active symptoms were observed on admission by the psychiatrist. Please see table 9 for details of means and t values.

Table 9. Means, Standard deviations, t and significance values for selected variables from the H scale of the HCR-20.

Variable	N	Mean OAS Score	SD	T Value	P Value
Violence					
Under 20 At First Violence	23	9.30	9.75		
Over 20 At First Violence	17	3.58	4.61	-2.462	.019
Substance Abuse					
Problematic Substance Use	20	9.50	9.17		
Experimental / No Substance Use	20	4.25	6.79	-2.056	.047
Early Maladjustment					
Early Maladjustment	38	6.84	8.60		
No Early Maladjustment	2	2.66	2.51	-2.072	.077
Previous Violence					
History of Previous Violence	33	7.30	8.87		
No History of Previous Violence	7	4.85	5.78	-.695	.491
Unresponsiveness to Treatment					
History of Unresponsiveness to Treatment	27	8.29	8.86		
No History of Unresponsiveness to Treatment	13	3.14	6.29	-2.151	.038
Symptoms of Mental Illness					
Active Symptoms on Admission	31	6.93	8.45		
No Active Symptoms on Admission	9	6.66	8.73	-.083	.934

First Violent Incident Under 20 Years Of Age

A t-test to compare mean violence for those with first violent incident under the age of 20 with those whose first incident was either after the age of 20 or not present at all was significant ($t = -2.462$; $p = .019$). Indicating that men who are recorded as violent before the age of 20 are significantly more likely to be violent during the first month of admission.

Problematic Substance Use

A t-test compared men with problematic substance use against those who had none or experimental use only. This test suggested there was a significant difference. Men with problematic substance use were more likely to be violent during the first month of admission ($t = -2.056$; $p = .047$)

Early maladjustment

Examination of the impact of early maladjustment using a t-test suggests that men who have had early maladjustment (at school and/or at home) are not significantly more likely to be violent during the first month of admission ($t = .072$; $p = .077$). However this difference did approach significance.

Any history of violence prior to admission

A t-test to compare men with any history of previous violence at all against with men with no history of violence was carried out. Men with a violent history were not more likely to become violent during the first month of admission ($t = -.695$; $p = .491$).

History of unresponsiveness to treatment

A t-test to investigate differences in first month violence between men with a history of unresponsiveness to treatment and those that did respond was carried out. Unresponsive men were significantly more likely to be violent during the first month of admission ($t = -2.151$; $p = .038$).

Presence of active symptoms of mental illness on admission

Men assessed as experiencing active symptoms of psychosis by the admitting psychiatrist were not shown to be significantly more likely than those not experiencing active symptoms to become violent during the first month of admission ($t = -.083$; $p = .934$). However, if active symptoms of mental illness were observed on admission, these men were more likely to be monitored more closely. Therefore, the likelihood of these men becoming violent during the first month of admission was reduced.

In summary, it appears that three items on the H scale of the HCR-20 do associate significantly with levels of violence during the first month of admission. The items that seem to affect levels of violence are first violent incident under 20 years of age, severity of substance use and a history of unresponsiveness to treatment.

3.5 Part 4: Associations between self-report measures and inpatient violence

Correlations were carried out to investigate the presence of any univariate relationships between each self-report measure and first month violence. It is important to bear in mind that only a small sub-sample of 16 men completed these measures. In some cases the sub-scales of measures are made up of only four items. In

splitting the data into smaller and smaller groups there is the risk of a type one error.

In order to make sure that any apparently significant relationships are genuine it is

advisable to set the threshold for significance higher than 0.05 (Miller 1989).

Therefore, discussions of the following analyses will consider that a significance level

of 0.01 preferable to indicate significance rather than a level of 0.05 to ensure

accurate interpretations.

Table 10. Correlations to investigate relationships between first month violence and a number of self-report measures.

Self-report measures	Pearson's r	Two tailed significance	N
Total for PCL-R	.518	.028	18
PCL-R factor 1	.230	.359	18
PCL-R factor 2	.534	.022	18
Total for Barratt Impulsiveness Scale (BIS-10)	.272	.309	16
Attentional sub-scale (BIS-10)	.514	.042	16
Non-planning sub-scale (BIS-10)	-.144	.593	16
Motor sub-scale (BIS-10)	.299	.261	16
Eysenck Impulsivity Scale Total (EIS)	.175	.206	16
Impulsivity sub-scale (EIS)	.206	.445	16
Venturesomeness sub-scale (EIS)	.230	.391	16
Empathy sub-scale (EIS)	-.046	.866	16

Table 10 reveals that three self-report measures correlate with violence during the first month of admission. Positive correlations at the 0.05 level were found for PCL-R total ($r = .518$; $p = .028$), PCL-R factor 2 ($r = .534$; $p = .022$) and the attentional sub-scale of the Barratt Impulsivity Scale ($r = .514$; $p = .042$). These results suggest that it may be possible to use scores on the PCL-R and the Barratt Impulsivity Scale to assess patients for violence during the first month of admission. The clinical implications of these findings will be addressed in the discussion section. No measures approached significance at the 0.01 level.

Table 11. Correlations to investigate relationships between first month violence and the scales that make up the NAS.

Self-report measure	Pearson's r	Two tailed significance	N
Total Novaco anger scale	.362	.168	16
Total part A Novaco anger scale	.433	.094	16
Cognitive domain of Novaco Anger Scale (NAS)	.462	.072	16
Attentional Focus	.254	.342	16
Rumination	.464	.070	16
Suspicion	.513*	.042	16
Hostile attitude	.396	.129	16
Arousal Domain (NAS)	.128	.637	16
Intensity	-.139	.608	16
Duration	.015	.957	16
Tension	.382	.145	16
Irritability	.120	.145	16
Behavioural Domain (NAS)	.595*	.015	16
Impulsive reaction	.525*	.037	16
Verbal Aggression	.546*	.029	16
Physical Confrontation	.425	.101	16
Indirect Expression	.106	.695	16
Total Part B Novaco Anger Scale	.258	.335	16
Disrespect	.005	.986	16
Unfairness	.111	.683	16
Frustration	.105	.698	16
Annoying traits	.433	.094	16
Irritations	.388	.138	16

From table 11 it can be seen that there were four correlations between anger as measured by the NAS and OAS scores that were significant at the 0.05 level and no correlations at the 0.01 level. The scales that correlated at the 0.05 level were the suspicion scale from the cognitive domain of Part A. From the behavioural domain the scales that correlated were impulsive reaction, verbal aggression and the total for the behavioural domain itself. Table 12 details the correlations carried out to investigate the presence of relationships between sub-scales of the STAXI and OAS scores.

Table 12. Correlations to investigate relationships between first month violence and the scales that make up the STAXI.

Self-report measures	Pearson's r	Two tailed significance	N
State Anger Score (STAXI)	-.127	.641	16
Trait Anger Score (STAXI)	-.288	.280	16
Angry temperament	-.280	.293	16
Angry reaction	-.260	.331	16
Anger in	-.113	.676	16
Anger Out	-.006	.982	16
Anger control	.263	.325	16
Anger Expression	-.178	.508	16

As can be seen from table 12 above there were no significant relationships between scores on the STAXI and OAS scores. A further set of analyses examined the relationships between use of substances and violence during the first month of

admission. According to the literature use of amphetamines, opiates and alcohol will be associated with violence (McMurran 1996). The following analyses looked at a range of substance use histories reported by 16 participants.

Relationships between use of substances and first month violence are detailed in table 13.

Table 13. A table to show t values for a range of categorical substance use variables examined for effect on first month violence for 16 men.

Variable	N	Mean OAS Score	SD	T Value	P Value
Have Used Amphetamines	6	12.23	10.48		
Have Never Used Amphetamines	10	2.8	2.85	-2.180	.077
Have Used Opiates	3	16.66	5.13		
Have Never Used Opiates	13	4.00	6.58	-3.092	.008
Have Used Alcohol	14	6.64	8.55		
Have Never Used Alcohol	2	4.5	2.12	-.343	.737
Have Used Crack and/or Cocaine	8	10.37	9.6		
Have Never Used Crack and/or Cocaine	8	2.37	2.97	-2.250	.053
Have Used Ecstasy	7	11.42	9.86		
Have Never Used Ecstasy	9	2.44	2.78	-2.338	.053
Have Used Illegal Tranquillisers	6	14.16	8.13		
Have Never Used Illegal Tranquillisers	10	1.70	2.35	-3.663	.012
Have Used Solvents	4	18.5	5.56		

Table 13 details the relationship between substance use and first month violence. It is important to note that the two strongest relationships for opiates ($t = -3.092$; $p = .008$) and solvents ($t = -7.816$; $p < .001$) include the same three participants as users of these substances. Further, it is worth noting that these three men were amongst the high scorers on the measure of violence used, two of them scored the two highest scores in the sample. Therefore, although there seems to be a link between these substances and first month violence it would appear to be due to three particular participants. In fact it is possible to suggest that these measures are likely to be related to each other due to the strong possibility that a number of participants in this group could be polydrug users.

Other relationships detailed in table 13 are interesting, as illegal use of tranquillisers is significantly associated with higher levels of first month violence ($t = -3.663$; $p = .012$). Relationships between the use of ecstasy ($t = -2.338$; $p = .053$) and crack and/or cocaine ($t = -2.250$; $p = .053$) are not significantly related to first month violence although these relationships do approach significance at the 5% level and suggest there may be a trend that might have been clearer in a larger sample.

CHAPTER 4: DISCUSSION

4.1 Overview

HCR-20 scores and violence during the first month of admission were examined in a sample of 40 male forensic inpatients drawn from a North London Psychiatric Hospital. A sub-sample of 18 of these men agreed to complete further self-report measures. This chapter presents a summary of the findings for each of the research questions. Secondly, a discussion of the findings focuses on the results obtained from analyses of the HCR-20 scores for the whole sample, then on the analyses of self-report measures for the sub sample of consenting men. What follows is an interpretation of the research findings in the light of the research questions and current literature. Limitations of the study are discussed, ideas for future research are outlined and finally the clinical implications of this work are addressed.

4.2 Summary of the Findings

4.2.1 Is age associated with violence in the first month of admission?

There was no relationship found between age on admission and levels of violence during the first month. Current literature suggests that young age is related to higher levels of violence (Monahan and Steadman 1994). However, this was not the case for this sample of 40 male inpatients.

4.2.2 Are HCR-20 scores associated with violence during the first month of admission?

Total scores on the HCR-20 were positively correlated with higher scores for first month violence. The separate scales of the HCR-20 were also positively correlated

with higher score for first month violence. The strongest correlation with violence scores was for the H scale. Further analyses showed that the R and C scales combined add significantly to the predictive power of the H scale. It is important to remember that the R scale did not achieve acceptable Cronbach's alpha, therefore the reliability of the R scale requires more investigation, possibly with a larger sample. Possible reasons for this problem with the R scale will be addressed later under section 4.4.2.

Do particular individual items on the HCR-20 have associations with scores on the Overt Aggression Scale (OAS)?

Particular items on the HCR-20 were converted to dichotomous variables and used to split the sample into two groups in order to carry out t-tests for differences in mean OAS scores. Variables that were significantly associated with higher mean scores for first month violence were: young age (under 20) at first violent incident, problematic substance use and early maladjustment. Possible reasons as to why these particular variables should be associated with higher levels of first month violence are discussed in section 4.3.1. Other variables originating from the HCR-20 were chosen following a literature review and were explored. These were history of violent behaviour and unresponsiveness to treatment. Neither of these variables appeared to influence levels of violence during the first month of admission. Another variable collected via notes review was presence of active symptoms of mental illness as assessed by the admitting psychiatrist. This variable was not shown to influence levels of first month violence.

For men who chose to complete self-report measures, are there any associations between the scores on these measures and scores on the Overt Aggression Scale for the first month of admission?

The self-report measures administered to 18 of the original 40 men provided a broad range of data. All measures and associated sub-scales of all measures were correlated with OAS scores to explore any relationships between these instruments and first month violence. The possibility of type one errors was considered and a significance level of 0.01 was considered the preferred level. A number of measures showed significant relationships with OAS scores, however these were at the 0.05 level. These measures were; the total PCL-R score, factor 2 PCL-R scores, the attentional sub-scale of the BIS-10 and three sub-scales of the NAS. Clinical implications for these relationships will be addressed in section 4.6

In summary, results indicate that scores on the HCR-20 are significantly associated with scores for first month violence on the OAS. Further, the sub-scales of the HCR-20 each add to the explanation of variance in OAS scores. However, the H scale is the strongest predictor, whilst R and C combined add significantly to predictive power. However, it must be remembered that the R scale failed to achieve satisfactory reliability figures. Individual items from the HCR-20 scale that were shown to be related to levels of first month violence were; young age at first violent incident, problematic substance use and a history of unresponsiveness to treatment.. Scores for the PCL-R total, PCL-R factor 2, attentional sub-scale of the BIS-10 and three sub-scales of the NAS were correlated with scores for first month violence at the 0.05

level. No self-report measures were associated with first month violence at the 0.01 level.

4.3 Discussion of the Findings

4.3.1 HCR-20 Scores

Research on the HCR-20 indicates that it has good validity for predicting violence in a range of populations (Douglas et al. 1999). For offender populations the strength of the C and R scales have been found to be higher than the predictive strength of the H scale (Belfrage, Fransson and Strand (in press). This study is interesting because the researchers were predicting institutional violence. In the present study, the H scale appeared to predict institutional violence for male forensic psychiatric patients better than the C or R sub-scales. However, the combination of the C and the R scale did add significantly to the power of the H scale. The strength of the C and R scales in predicting institutionalised violence is explained by Belfrage et al. (in press) as due to homogeneity of the H scale scores for this group. Therefore, the items that make up the H scale were not very useful in separating violent from non-violent inmates.

The relative weakness of the C and R scales in the current study may have been due to the small sample size and the relatively short period over which evidence of violent behaviour was collected. In addition, the site used in the study was a psychiatric hospital rather than a prison so there was a greater variation of H scale factors amongst the participants in this study because they were not all convicted and incarcerated offenders. A second difference between this study and the current one is that the measure of violence used for this study was the Overt Aggression Scale

scored retrospectively from nursing notes. Belfrage et. al. (in press) used acts of violence committed by participants following assessment with the HCR-20.

A retrospective study of patient files to rate HCR-20 scores on 56 patients drawn from forensic special hospitals in Sweden used recidivism after discharge to measure violence. They found that the C and R scales were less predictive than the H scale. In this study the participants were 40 mentally disordered offenders followed up in the community using official records as a measure of violence. Blind raters coded the HCR-20 and the authors compared a group of recidivists matched with a second group of non-recidivists (Strand et al. 1999). Again, the authors comment that the homogeneity of scores on the H scale lessens its usefulness in separating the two groups. It is suggested that where populations are so similar on the H scale, the C and R scales are the most useful in differentiating high risk from low risk people. For the current study there was no such homogeneity of H scale scores. However, the findings discussed above do strengthen the case for using the whole scale to assess potentially violent inpatients. The current study found that the HCR-20 total score correlated more strongly with violence than the H, C or R scale alone, again suggesting the whole scale is more accurate than any single sub-scale.

Douglas et al. (in press) investigated the predictive validity of the HCR-20 and found that people scoring over 20 on this scale were 6 to 13 times more likely to be violent at follow up in the community. A closer examination of the predictive validity of the sub-scales suggested that the H scale consistently predicted four kinds of post release violence, whilst the R scale significantly predicted two. Similarly, the current study

found that the H scale was the strongest predictor of inpatient violence and the R scale the next strongest.

Strand et al. (1999) also examined the predictive validity of individual items on the HCR-20 for their sample. They found that all of the individual items on the C and R scales were significantly different for recidivists compared to non recidivists, apart from one item (C3), active symptoms of mental illness. The current study examined items from the H scale in response to conclusions drawn from published research. Three items on the H scale separated the group into significantly differing levels of first month violence. These were young age at first violent incident, severe early maladjustment and problematic substance abuse. This is in contrast with Strand et al. (in press) who found that none of the items on the H scale predicted recidivism. However, the difference between the studies appears to be the kind of violence that is being predicted. The current study predicts inpatient violence in a forensic psychiatric hospital, whilst Strand et al. (1999) predicted recidivism for leavers of a special forensic hospital. The implication is that scores on the H scale are less homogeneous for the population in the current study. The importance of young age at first violent incident and substance use for this group is that mental illness at a young age may lead to violence and substance abuse as a means to cope with symptomatology (reference to get). The presence of early maladjustment as a factor associated with violence may be causally associated with the presence psychopathology at a young age. Implications for future research are addressed in section 4.5.

4.3.2 Self-report Measures

Due to the small number of respondents for these measures, a significance level of 0.01 was chosen as the preferred level. Unfortunately, none of the relationships between self-report measures and first month violence reached significance at the 0.01 level. The findings that associated at the 0.05 level are discussed but it is acknowledged that there is a danger of a type one error in accepting this level of association as significant.

4.3.2.1 PCL-R

For the sample used, the PCL-R scores obtained suggested that 2 of the 16 participants met the criteria for Psychopathy according to the UK cut-off score of 25 (Cooke and Michie 1999). The mean score for the group was 15.21 (SD = 7.26; Range 0-29) which, despite the wide range of scores suggests there were some traits present among even those who did not meet the criteria for psychopathy. A correlation between the PCL-R total and OAS scores proved significant at the 0.05 level ($r = .518$; $p = .028$) but not at the 0.01 level. The PCL-R total score has been acknowledged as a strong predictor of recidivism in general for released inmates, but it is also said to be an even stronger predictor of violent recidivism (Hemphill, Hare and Wong 1998). In the current study, PCL-R scores have been associated with higher scores on the OAS for the sample of 16 men. This would suggest that the total score for the PCL-R could be sensitive enough to associate with first month violence despite the small sample size.

Factor two scores also correlated with OAS scores ($r = .534$; $p = .022$). Factor two of the PCL-R is described by Hare (1990) as the lifestyle and social component part of

the PCL-R. Hemphill, Hare and Wong (1998) in a review of studies, found that factor two was a stronger predictor of recidivism than the total or factor one scores. Furthermore, Cooke and Michie (1999) in a study of UK prison populations found that factor two was particularly sensitive to behavioural and anti-social components of psychopathic presentation. Whilst factor one did not seem to be sensitive enough to detect interpersonal components.

In summary, this scale has been sensitive enough to perform in the same way as it has done in larger studies of prison inmates in the UK and America. The association between the obtained scores and violence in the first month suggests that this scale is a useful adjunct to routine admission assessment for a forensic male population. Clinical implications are discussed in section 4.6.

4.3.2.2 BIS.10

This scale measured levels of impulsiveness and looked at three different components of impulsiveness; attentional, motor, and non-planning impulsiveness. The total score reflects a composite of Impulsiveness. Total scores were positively correlated with OAS scores ($r = .272$; $p = .309$), however the relationship was not significant. The presence of a positive trend suggests that with larger numbers this scale may have been significantly associated with first month violence. Of the three sub-scales, the attentional scale was associated with first month violence ($r = .514$; $p = .042$), however this association did not achieve significance at the 0.01 level. This scale taps the ability to concentrate on a task, pay attention to what is happening and concentrate. The less able a person is to do these things the higher they will score on

this scale. Initially it would appear that people with concentration difficulties may have been more violent. It is worth considering that some items on this scale include racing thoughts and “outside thoughts when I am thinking”. Therefore, it may be the case that for men with active symptoms of mental illness, particularly thought disorder this scale picks up those symptoms.

Clinically it could be argued that someone with these symptoms may be more likely to strike out impulsively than someone without symptoms (Monahan 1993). Therefore, it seems that this scale may be picking up aspects of impulsive thought patterns and this may explain the significant relationship with first month violence.

The motor sub-scale was also positively correlated with OAS scores although not significant ($r = .299$; $p = .261$). This scale included items such as changing jobs frequently, homes frequently and “charging more than I earn”. It may be the case that, for this population, debt and housing problems are a significant issue due to socio-economic difficulty rather than impulsive thinking and behaviour. This may explain the positive though non-significant result (Swanson et al. 1990). The non-planning sub-scale actually correlated negatively with first month violence, although this relationship was non-significant ($r = -.144$; $p = .261$). This scale asks about planning ahead for trips and tasks and saving regularly. The interesting thing about these questions is that, for men who are difficult to manage on an inpatient unit, everything is carefully planned in advance for them. Sometimes even access to money is restricted in order to prevent the purchase of alcohol or illegal drugs. For some violent men in the sample this was the case. Other items on this scale suggest that

people scoring low enjoy puzzles and think things through carefully, endorsement of these qualities by men who were disturbed may suggest lack of insight and/or denial of problems.

For this scale it is important to remember that the design of the current study is retrospective. Therefore, the scores reported here for the BIS-10 may currently be different from how they may have been on admission. Despite this problem, it still appears that this scale may be useful as an assessment tool for new admissions as it seems to be sensitive to attentional impulsiveness.

4.3.2.3 EIS

This scale did not demonstrate significant correlation with OAS scores for the current study. The positive relationships were between total scores and OAS scores ($r = .175$; $p = .206$), Impulsiveness sub-scale ($r = .206$; $p = .445$) and the venturesomeness sub-scale ($r = .230$; $p = .391$). Although these relationships were not significant, the correlations for the two sub-scales suggest there may be presence of these traits in this population. This may have been clearer if larger numbers of participants had been available. There did not appear to be any relationship with empathy ($r = -.046$; $p = .866$) and therefore it is not possible to speculate how this scale would have behaved if larger numbers had been assessed. Overall, this scale has not performed as well as the BIS-10 as a measure of impulsive traits. It is worth noting that this scale was not specifically developed for psychiatric and forensic populations. This issue will be addressed under section 4.6.

4.3.2.4 NAS

Part A of the NAS approaches significance at the 0.05 level but not the 0.01 level in correlation with OAS scores for first month of admission. It is useful because it describes three domains that detail the quality and course of the anger experience for people who complete the scale. These are the cognitive domain, the arousal domain and the behavioural domain. The findings for the various sub-scales that make up Part A are discussed below.

Within the Cognitive Domain, Suspicion correlates positively with OAS scores ($r = .513$; $p = .042$). Rumination ($r = .464$; $p = .070$) approached low levels of significance and may demonstrate a clearer relationship with a larger sample. The remaining two sub-scales did not display any relationship with OAS scores. The suspicion scale asks patients to endorse items like “I know people are talking about me behind my back” and “I used to think that most people told the truth but now I know otherwise”. The endorsement of items such as these may indicate some levels of paranoid thinking in this sample. This would not be surprising given the fact that the sample used are a hospitalised psychiatric population and that 72.2% of the sample had a primary diagnosis of Schizophrenia.

Within the Arousal Domain the Intensity sub-scale is reported by Novaco to relate to impulsive aggression (Novaco 1994). In the current study, it was surprising to find no relationship between Intensity and OAS scores ($r = -.139$; $p = .608$). The items that make up the Intensity sub-scale ask about how dramatic the anger experience is for the patient, e.g. blood boiling, smashing things up, being a “hot head”. As one of the

aims of hospitalisation is to control this kind of anger, there are a number of possible reasons for such low levels of endorsement of these items. Possible reasons include, lack of ability to reflect on one's anger and/or a wish to deny how serious the problem anger can be. More importantly, for some men since the first month of admission, the treatment they have received may have altered the way they express their anger at assessment.

Sub-scales in the Arousal Domain that correlated positively but not significantly were: Tension and Irritability. Again, with larger numbers these items may have displayed clearer relationships with OAS scores.

The total score for the Behavioural Domain correlated positively and significantly with OAS scores ($r = .595$; $p = .015$). Closer examination of this scale highlighted relationships between OAS scores and two of the component scales, Impulsive Reaction ($r = .525$; $p = .037$) and Verbal Aggression ($r = .546$; $p = .029$). The impulsive reaction scale asks about quickness to anger including items such as “my temper is quick and hot”, “I fly off the handle before I know it”, and “I have a fiery temper that arises in an instant”. The relationship between this scale and the OAS for first month violence might be explained by the fact that the kind of anger described may lead to outbursts. When participants are frustrated or blocked from doing things that were possible before admission to a secure ward (e.g smoking in one's bedroom) this may provoke anger.

The second sub-scale that correlated positively with OAS scores was Verbal Aggression ($r = .546$; $p = .029$). This scale examined the tendency to respond to provocation with verbal aggression. Items on this scale included “yelling back at someone who yells at me” and “If I don’t like someone I tell them off”. These problems understandably pre-dispose a patient to conflict with staff and fellow patients in the early stages of admission.

The Physical Confrontation scale is another interesting sub-scale as according to Novaco (1994) it associates with “willingness to do harm to others”. In the current study it correlated positively but not significantly with OAS scores ($r = .425$; $p = .101$), with a larger sample, this scale may have been shown to relate to OAS scores. As this scale relates directly to potential to harm other people it would be extremely useful as part of an early assessment of patients.

The fourth sub-scale that makes up the behavioural domain is Indirect Expression; this taps whether a patient engages in displacement activity to cope with the anger response. No relationship was detectable for this scale.

Part B represents the patient’s behavioural response to anger and focuses on elements such as Threat, Challenge and Unfairness. This scale did not relate significantly to OAS score. The only sub-scale which showed any kind of relationship with OAS score was the Annoying Traits sub-scale which explores responses to people that are considered annoying. This relationship was non-significant but positive ($r = .433$; $p =$

.094). The scale items for this part ask the respondent to rate how angry they are when faced with certain scenarios. The annoying traits scale provided statements like “people who act like they know it all” and “people who are always contradicting you”. It is likely that people scoring high on this scale and high on the OAS were in conflict with members of staff and may have been thinking about the conflicts they have had with staff members. Memories of having privileges taken away and boundaries reinforced may underlie some of the responses to these items.

4.3.2.5 STAXI

The majority (62.5%) of scores obtained on the STAXI were below the 75th percentile on the composite anger expression score. This suggests that the sample used were not particularly disabled by their levels of anger expression. The implication of this is that 37.5% of the sample had functional problems due to anger. In the analyses, none of these scales approached significance when correlated with OAS scores. The expected associations between sub-scales on this measure and OAS scores were to see Trait Anger associating with OAS scores. This sub-scale examines frustration and perception of unfairness. This scale actually correlated negatively with OAS but was not significant. Another sub-scale of interest was the Anger out scale which looks at expression of anger towards a persons environment, this scale did not appear to demonstrate any relationship at all with OAS scores ($r = -.006$; $p = .982$) Another scale that was of interest was the composite calculated from the Expression and Control scores to give an overall Anger Expression score, this scale did not appear to be related to OAS scores either ($r = -.178$; $p = .508$)

On balance, this scale has not picked up the information the NAS was able to detect. It is worth noting that this scale was not developed for use with forensic and psychiatric populations. It may be that the items were not appropriate to the sample and were therefore not endorsed in the way that the items in the NAS were used.

This scale may have been more useful with a larger sample and in that case, it might have been used to compare a group of people scoring above the 75th percentile and a group scoring below. This might have allowed the opportunity to ascertain the scales strength in identifying people with extreme angry presentation. Again as with the NAS scale it may be the case that treatment received since admission altered the way anger is expressed by these men. Therefore, the scale is actually picking up adaptive means of coping with anger. It would have been interesting to measure these men at admission at the same time as their behaviour was monitored.

4.4 Limitations of the Study

4.4.1 Generalisation

The biggest challenge to generalisation in this study was the lack of participants willing to take part in self-report measures. The sub-sample of 16 men willing to complete self-report measures from an original population of 40 appear to have been significantly lower scoring on the HCR-20 scale. They also appear to have had significantly less early maladjustment than the remaining men who refused to take part in questionnaire and interview measures. The implications of this difference are serious for forensic research practice. In the UK, it is unethical to pay patients to take part in research. In the current study, tea and biscuits were not enough to encourage a

representative sample to take part in lengthy self-report measures. It may be that larger numbers may have reduced these differences. However, despite the difference between the groups there is an argument for piloting the use of the NAS, the BIS-10, the HCR-20 and the PCL-R as part of routine clinical practice. Each of these measures has been shown to provide significant associations with violence during the first month of admission despite the small sample sizes.

The use of only one site was unavoidable given the time scale of the project. Also to include more than one site would have introduced a range of variations amongst the sample such as; admission criteria, therapeutic regime, data available for notes review and gender mix. Therefore the decision was taken to concentrate on one site and keep the environment constant whilst generating as many recruits to the project as possible.

Another problem with the sample is that it consists only of men. As mentioned earlier in the method chapter there were only four women resident at the hospital at the time of the study. It was decided that this was too small a number to add a representative group to the sample. The number of female patients remained stable between 4 and 8 throughout the study. One of the reasons for the low numbers of female patients is the predominance of referrals from custodial and psycho-legal contexts rather than from the community or other hospital.

During the process of scoring the PCL-R it became clear that the presence of mental illness affected the scores assigned to patients. For example, impoverished speech increased the likelihood of appearing cold in interview transcripts, and also limited the

articulation of remorse and regret. It seems that the results for this sample could be compared with another psychiatric population but care should be taken making direct comparisons with inmate samples or community samples.

Megargee (1976) makes the point that violent inpatients may be different to violent outpatients. The suggestion is that institutionalisation variables may explain some of the violence that is displayed in inpatient settings. Therefore, it would be useful to compare violence during first month of admission with violence during the month before admission to determine if institutionalisation actually affected the prevalence of violence for these inpatients.

4.4.2 Measurement

Specific problems with measurement are tied to the use of the scales used in this study. The PCL-R was the scale that provoked discussion between the two blind raters and the researcher. In particular item 3, pathological lying, item 7, shallow affect and item 8 lack of empathy were particularly difficult to score for almost every case. In the absence of clear verbal evidence these items rely on non-verbal cues for assessment. This information was not available due to the absence of video or audio records of interviews. When items could not be scored, they were omitted according to the instructions in the manual, then prorated in accordance with instruction to calculate final scores for all participants. However, future research using this scale should incorporate video or audio recording. Confidentiality issues are pertinent to this video recording. Audio or video data can be made available to courts where

research participants are the subjects of court proceedings. Specifically, this could be the case if participants were to speak about the circumstances of an alleged offence during interview. This was the reason for using written transcripts only for the purposes of this study.

The measure of mental state used for this study was undoubtedly crude and inadequate. To use diagnosis at admission excluded daily information regarding symptoms and did not allow conclusions to be drawn as to which symptoms have relationships with violence. Due to the retrospective nature of the project, the only available measure of mental state for the time that acts of violence took place was diagnosis at admission. Future studies using a prospective design would rectify this problem. Douglas et al. (1999) recommend a monitoring of symptomatology rather than diagnosis in order to accurately monitor mental state over time. Unfortunately, the variation in detail in the admission notes available for review made any meaningful recording of symptomatology at admission comparatively random. Future studies could usefully standardise the recording of symptoms on admission. Another useful measure could include symptomatology at the time of violent incidents. This would usefully explore the links between mental state and violent behaviour.

The measurement of historical, clinical and risk factors using the HCR-20 scale may have been improved if assessments of impulsivity or psychopathy at admission had been available. As these traits require a thorough assessment over time, it was not possible to include these factors in the HCR-20 scales completed. The scores were

pro-rated for these two items according to the instructions in the manual. Clinical implications of this problem are discussed in section 4.6.

The measurement of Risk factors for the R scale seems to have yielded low figures for reliability. The R scale achieved a Cronbach's Alpha of .4095 following the deletion of item 5. An explanation for this might be the difficulty in anticipating Risk factors after discharge when patients were in hospital. Information available from admission summaries was generally focussed on current presentation and problematic behaviours in the community. Therefore, it could be suggested that this scale is difficult to score reliably early on in the course of admission.

The measurement of violence for this study took place in an environment where all therapeutic efforts were consistently mobilised to reduce violent incidents. Therefore as with many other studies of violent behaviour the rate of severe violence was low (Monahan and Steadman 1994). However, although the rates were low it is fair to say that the use of an inpatient setting holds the environment constant for all participants. Therefore, differential rates of violence are more likely to be due to internal characteristics and states than to external challenges or provocations (Belfrage et al. in press).

A second difficulty with the measure of violence for this study was the data collection from note review for the rating of the OAS scale. The scale was designed to be completed by nursing staff at the end of each shift for each participant under study. A concerted effort was made to recruit nurses to the project early on, but the

combination of nursing time constraints and the diluted responsibility that comes from being a large group meant that no records were available contemporaneously. The notes were all reviewed by the researcher and were therefore consistently rated using the same rationale and definitions. Score sheets were only completed for incidents not for each day during the first month of admission. Using notes means that the information used to complete the scale could have passed from the eyewitness to the person making the notes entry and then to the researcher reviewing the notes. The loss of detail through this process is likely to have been considerable. Possible solutions to this problem are discussed in section 4.5.

Another problem with measurement of violence was that due to low rates of violence it was not possible to split types of aggression into object directed, person directed and verbal. Larger numbers of participants and several sites may have increased the variation of violence recorded, particularly as on any one unit there is usually a limit to how many extremely violent people can be managed at one time. Therefore, different sites would have increased the variety of men at the high end of the violence scale allowing an examination of types of violence.

The measure of substance use used in this study only examines lifetime occurrence of use and not use around the time of admission. A more useful measure might have asked someone on admission what he or she had taken before coming into hospital. Analysis of urine on admission would have provided clear evidence of any substance use on admission. This analysis could have continued throughout the violence rating period.

4.4.3 Design

Possibly, the major improvement that could be made to the current design would be to predict violent behaviour prospectively rather than retrospectively. The advantage of this would be that measures would be current to the time at which violence takes place. The reason for choosing the first month of admission for the violence recording period was to ensure that the phase of admission was comparable for all participants. To predict violence during the month following recruitment would have reduced the number of participants by approximately a third, due to discharges occurring soon after recruitment to the research project. Given the time scale of the project there was not time to recruit people and then discard data because they had been discharged. Also to follow people up either in the community or at another hospital would have meant that the environment was different, not controlled and comparable across the sample. The hospital has an average length of stay of 17 months. Total bed capacity is 60 beds. To have carried out a prospective study, recruiting only new admissions and stick to the time scale of this project would have reduced the sample by approximately two thirds.

4.5 Suggestions for Further Research

If the study was to run as an ongoing data collection and routine clinical assessment it would build up a greater sample size over two to three years. This could usefully inform choice of assessment and evaluate levels of accuracy of violence prediction for these scales. The clinical implications of incorporating these measures into routine clinical practice are discussed in section 4.6.

Another advantage of making this a long-term study would be recruitment of women. Although slower, this would eventually yield numbers of female participants that could usefully provide data on how predictive these measures are for women inpatients. Studies to examine the strength of the HCR-20 for women have shown that it is as valid for women as for men (Strand and Belfrage in press).

Measures that could be introduced in a longer term study could include measures of rapport with staff, as some research has suggested that poor relationships with staff can lead to higher frequencies of conflict (Whittington and Wykes 1996). A measurement of the kinds of activities the patients participate in and how this affects the occurrence of violence might be informative. A review of inpatient violence found that unstructured time often associates with violent incidents (Pearson et al. 1986; Depp 1976; Fottrell 1980). Sleep patterns may also have given some indication of fluctuations of mental state for participants along with contemporaneous mental state assessment.

Another way of measuring violence would be to incorporate antecedents and consequences of violence to examine whether interventions are as effective as they might be. The measure of violence used in the current study was a standardised and well known measure that enabled comparison of the results with other studies. Comparability of measures of violence is something requested by researchers in the field in order to facilitate the production of meta analyses (Monahan and Steadman 1994).

4.6 Clinical Implications and Summary

The HCR-20 has performed well in predicting first month violence for 40 male inpatients. Despite the absence of information relating to impulsivity and psychopathy this scale has successfully predicted inpatient violence. It may be argued that to assess these traits prior to admission would be advantageous. It may be that this information could strengthen the relationships observed here. For this population the HCR-20 was straight forward to administer. Using medical notes as the information source meant that all eligible inpatients were scored on this scale.

Currently notes reviews are undertaken for these patients on admission to the hospital. This scale may help to standardise the appraisal of the information gathered from notes review. In doing so risk assessments undertaken may be methodologically consistent. In using an instrument such as this, the format of the information could be numerical. In some clinical settings this would be a disadvantage. However, within a forensic setting this process may help to provoke discussion about any differences between the results of this scale and purely clinical assessments.

The total PCL-R score and factor 2 PCL-R scores appear to associate significantly with measures of first month violence. This suggests that the PCL-R is able to provide clinically relevant information. Accurate assessments of violence risk lessen the likelihood of violence. This allows the relationships to develop more quickly with ward and therapeutic staff. These relationships are crucial for therapeutic opportunities. Additionally fellow patients are less likely to become victims of

violence. Therefore, the therapeutic opportunities for others are also increased. The interview component of the scale may also provide the opportunity to develop a rapport with new admissions. Good rapport early on during treatment has been reported to lower rates of inpatient violence by some authors (Beauford et al. 1997).

The measurement of impulsiveness using the BIS-10 demonstrated that the attentional sub-scale was associated with first month violence. This suggests that patients with attentional problems are more likely to be violent early on during admission. This may be an important problem if admission to secure accommodation represents a significant change in lifestyle. It may be more difficult for patients with these difficulties to adjust. Understanding and remembering instructions and boundaries could present problems. Often these situations can produce frustration and conflict between staff and patients during the early stages of admission. The other sub-scales may also prove to be significantly associated if the scale were to be administered early on during admission.

The results of the current study support the use of the BIS-10 over the EIS. A patient with a short concentration span and may not be able to complete numerous questionnaire measures. These results indicate that the BIS-10 should be administered rather than then the EIS as the BIS-10 appears to be more sensitive to impulsive traits within this psychiatric population.

Three sub-scales and one domain of the NAS correlated positively with first month violence. The impulsive reaction scale would be a useful source of information early

on during admission. This information could alert staff to the kind of patients who may find it difficult to control verbal and physical anger. This is a time when most patients require more prompting to respect ward rules. A high score on this scale may advise staff that they need to spend more time with these patients to explain rules and limits.

The association between the verbal aggression scale and OAS scores suggests that the NAS accurately detects those prone to verbal aggression. As with any kind of aggression, good management of verbal aggression helps to develop better relationships between the patients, staff and peers.

A positive relationship between scores for the behavioural domain of the NAS and first month violence is particularly interesting. The measurement of first month violence is behavioural. This association suggests that the behavioural domain of this scale picks up the traits that lead someone to be aggressive. Clinically this scale may be useful identifying people who need treatment and management guidelines for aggression early in admission.

The association between suspicion and first month violence suggests that this factor is implicated in violent responses. It may be the case that patients scoring highly on suspicion are more troubled by symptoms of thought disorder or delusions. Other workers have linked active symptoms of mental illness and violence (Monahan 1993). This may be the case with the patients in this study. As mentioned in 4.5 a longer term

study with a more accurate measure of mental state would clarify any existing relationship.

The performance of the NAS despite small numbers is encouraging. Analysis of scores generated for the STAXI suggest that the NAS is better able to detect anger responses relevant to violent behaviour. Further work may illuminate the nature of the difference between the scales.

Current assessments following admission are quite comprehensive and can be lengthy therefore it should be possible to incorporate these newer measures or even replace some of the less useful ones such as the STAXI and the EIS with stronger more sensitive appropriate measures like the NAS and the BIS-10. The PCL-R measure would allow for an extensive interview that may help to build rapport and increase an understanding of new admission (Beauford et al. 1997). The HCR-20 could bring great advantages as a way of structuring the comprehensive notes review already undertaken. As a means of risk assessment, the HCR-20 has been shown to be associated with violence as has the PCL-R, the BIS-10 and the NAS.

Taken together the PCL-R, HCR-20, NAS and BIS-10 would provide a comprehensive psychometric background to more tailored and sensitive clinical assessment and discussion.

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APPENDIX A. LETTER OF APPROVAL FROM ETHICS COMMITTEE

Chairman: Peter Dixon
Chief Executive: Christine Outram

18 February 2000

Ms Jane Vane Tempest
The sub-department of clinical health psychology
University College of London
Gower Street
London WC1E 6BT

Dear Ms Vane-Tempest

638 - An investigation into the ability of psychological measures to predict violent behaviour for patients detained in hospital under a section of the Mental Health Act?

Acting under delegated authority, I write to inform you that the amendments to the above study, contained in your letters dated 10 November 1999 and 16 February 2000, have been approved.

The Committee looks forward to receiving a copy of your interim report in six months time or at the end of the study if this is sooner.

Please quote LREC number on all future correspondence.

Yours sincerely



Christine Hamilton
Administrator to LREC
(on behalf of LREC Chairman)

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Chairman: Peter Dixon
Chief Executive: Christine Outram

15 July 1999

Ms Jane Vane Tempest
The sub-department of clinical health psychology
University College of London
Gower Street
London WC1E 6BT

Dear Ms Vane-Tempest

638 - An investigation into the ability of psychological measures to predict violent behaviour for patients detained in hospital under a section of the Mental Health Act?

Acting under delegated authority, I write to inform you that the amendments to the above study, contained in your letter dated 22 June 1999 have been approved.

The Committee looks forward to receiving a copy of your interim report in six months time or at the end of the study if this is sooner.

Please quote LREC number on all future correspondence.

Yours sincerely



Dr P Sheridan
Deputy Director of Public Health
(on behalf of LREC Chairman)

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APPENDIX B. LETTER OF PERMISSION TO USE THE OAS

Stuart C. Yudofsky, M.D.



BAYLOR
COLLEGE OF
MEDICINE

Methodist
The Methodist Hospital

One Baylor Plaza, Rm. 115D
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D.C. and Irene Ellwood
Professor and Chairman
Department of Psychiatry
and Behavioral Sciences

Chief,
Psychiatry Service

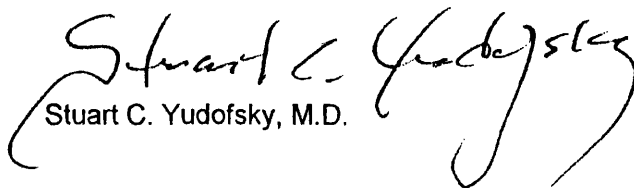
February 21, 2000

Dr. Janet Feigenbaum
Jane Vane Tempest
University College London
1-19 Torrington Place
London, WC1E 6BT
UNITED KINGDOM

Dear Dr. Feigenbaum and Ms. Tempest:

Thank you for your letter of January 13, 2000. I am happy to grant you permission to use the Overt Aggression Scale (OAS) as part of your research project at the Forensic Psychiatric Hospital in London. Best wishes on the success of your study; it certainly sounds like it will be an important addition to the research literature.

Yours sincerely,


Stuart C. Yudofsky, M.D.

SCY/lc

APPENDIX C. LETTER OF PERMISSION TO USE THE BIS-10

University of Texas Medical Branch at Galveston



School of Medicine
School of Biomedical Sciences
School of Allied Health Sciences
School of Nursing

Marine Biomedical Institute
Institute for the Medical Humanities
UTMB Hospitals

March 25, 1999

Department of Psychiatry
and Behavioral Sciences
Phone: (409) 772-1439
Fax: (409) 772-3218

Dr. Janet Feigenbaum
Lecturer in Personality Disorders
University College London
Sub-Dept. of Clinical Health Psychology
1-19 Torrington Place
London, WC1E 6BT
U.K.

Dear Dr. Feigenbaum:

Enclosed is the most recent BIS-11 you requested along with selected reprints from the lab. If you'd like additional reprints, please contact us. We would appreciate receiving any data using the BIS-11. I wish you luck in your research endeavors and let us know if we can be of further assistance.

Cordially,

A handwritten signature in cursive script, appearing to read "Michele J. Liebman", followed by a horizontal line.

Michele J. Liebman
Research Assistant
Cognitive Neuroscience Laboratory

mjl
Encl.

APPENDIX D. EMAIL REGARDING USE OF THE NAS

From: W. Louise Warren, Ph.D. [SMTP: warren@wpspublish.com]

Sent: 15 November 1999 09:03

To: info@partnershipsincare.co.uk

Subject: Novaco Anger Scale

This letter is in response to Jane Vane-Tempest's request for the Novaco Anger Scale. Ms. Vane-Tempest is a Clinical Psychologist in Training working with Dr. Janet Feigenbaum and Mr. Graham Gibson.

Dear Ms. Vane-Tempest:

The NAS will not be available for purchase until sometime next year. Until then, it can be obtained through the author's office at the University of California at Irvine (FAX #714-824-3002). You can let them know that you have already contacted me, and I referred you over to them.

Thank you for your interest in WPS assessment instruments.

-- Louise Warren

W. Louise Warren, Ph.D., ABAP

Senior Project Director

Western Psychological Services

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Los Angeles, CA 90025-1251

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Phone: 1-310-478-7061

FAX: 1-310-478-7838

APPENDIX E. CONSENT FORM

REDFORD LODGE HOSPITAL

CONSENT FORM

AN INVESTIGATION INTO THE ABILITY OF PSYCHOLOGICAL MEASURES TO
PREDICT VIOLENT BEHAVIOUR FOR MEN DETAINED IN HOSPITAL UNDER A
SECTION OF THE MENTAL HEALTH ACT

I (your name).....

of (address).....

confirm that I have read and understand the patient information sheet, I understand that I will be asked some questions and that I will fill in some questionnaires, and that this will take 2-3 hours in total. I understand that I may take breaks when I need to during the interviews and can break them down into shorter sessions if I need to do so. I also understand that I may leave the research project at any time if I find that I do not wish to continue for any reason. I understand that leaving the research project will not affect my care and treatment here at Redford Lodge in any way.

Signed..... Date

Investigators Statement

I have explained the nature, demands and foreseeable risks of the above research to the subject.

Signature..... Date

APPENDIX F. INFORMATION SHEET

INFORMATION SHEET: AN INVESTIGATION INTO THE ABILITY OF PSYCHOLOGICAL MEASURES TO PREDICT VIOLENT BEHAVIOUR FOR MEN DETAINED IN HOSPITAL UNDER A SECTION OF THE MENTAL HEALTH ACT

What is the purpose of the study?

We are testing how well a number of interviews and questionnaires work when we use them to predict whether people will have violent episodes.

How will the study tell you who is going to be violent and who isn't?

There are 7 things to be done 3 are interviews and 4 are questionnaires. These will give us information about how people might react to certain situations. We will use this information along with the records kept on the ward about how people are when they are on the ward to see if we are able to predict how people would react.

What do I have to do?

I will run through some questions with you and it will be like an interview, a bit like the one you had when you first came to Redford Lodge. There are a lot of questions, then there are four questionnaires to fill in. I would like you to let me know when you would like a break. If you feel you want to continue on another day that is also fine. Don't forget that you are free to leave the project at any time without this affecting your care here in any way at all.

Once you have given me the information I need I will wait three months and come back and get you to fill in the questionnaires again to see if anything has changed over the time you have spent on the ward.

Can I talk to someone about my decision to take part?

The advocate here at Redford Lodge is a good person to talk to about taking part in the study. If you have any problems getting in touch with the advocate we will be pleased to contact her on provide the information you need to do so.

What will I get for doing this?

The information we collect will be used to develop ways of predicting violent behaviour in hospitals. Your information and help will help us to understand why people get violent. There are a lot of people all over the world trying to understand what it is about people that makes them violent. At some point in the future we would like to make it easier to control violence in hospital by being able to predict it and help people to cope better before they become angry and violent.

**IF I DO NOT WISH TO TAKE PART OR WITHDRAW FROM THE STUDY AT ANY TIME
THIS WILL NOT AFFECT MY PRESENT OR FUTURE CARE**

APPENDIX G. STAXI



Self-Rating Questionnaire

STAXI Item Booklet (Form HS)

Name _____ Sex _____ Age _____ Date _____

Education _____ Occupation _____ Marital Status _____

Instructions

In addition to this Item Booklet you should have a STAXI Rating Sheet. Before beginning, enter your name, sex, age, the date, your education and occupation, and your marital status in the spaces provided on this booklet and at the top of the Rating Sheet.

This booklet is divided into three Parts. Each Part contains a number of statements that people use to describe their feelings and behavior. Please note that each Part has *different* directions. Carefully read the directions for each Part before recording your responses on the Rating Sheet.

There are no right or wrong answers. In responding to each statement, give the answer that describes you best. DO NOT ERASE! If you need to change your answer, make an "X" through the incorrect response and then fill in the correct one.

Examples

- | | | | | |
|----|---|----------------------------------|-----------------------|---|
| 1. | ① | ☒ | ☐ | ④ |
| 2. | ① | ☐ | ③ | ④ |

Part 1 Directions

A number of statements that people use to describe themselves are given below. Read each statement and then fill in the circle with the number which indicates how you feel *right now*. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to *best* describe your *present feelings*.

Fill in ① for *Not at all*
Fill in ② for *Somewhat*

Fill in ③ for *Moderately so*
Fill in ④ for *Very much so*

How I Feel Right Now

1. I am furious.
2. I feel irritated.
3. I feel angry.
4. I feel like yelling at somebody.
5. I feel like breaking things.
6. I am mad.
7. I feel like banging on the table.
8. I feel like hitting someone.
9. I am burned up.
10. I feel like swearing.

Part 2 Directions

A number of statements that people use to describe themselves are given below. Read each statement and then fill in the circle with the number which indicates how you *generally* feel. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to *best* describe how you *generally* feel.

Fill in ① for *Almost never*
Fill in ② for *Sometimes*

Fill in ③ for *Often*
Fill in ④ for *Almost always*

How I Generally Feel

11. I am quick tempered.
12. I have a fiery temper.
13. I am a hotheaded person.
14. I get angry when I'm slowed down by others' mistakes.
15. I feel annoyed when I am not given recognition for doing good work.
16. I fly off the handle.
17. When I get mad, I say nasty things.
18. It makes me furious when I am criticized in front of others.
19. When I get frustrated, I feel like hitting someone.
20. I feel infuriated when I do a good job and get a poor evaluation.

Part 3 Directions

Everyone feels angry or furious from time to time, but people differ in the ways that they react when they are angry. A number of statements are listed below which people use to describe their reactions when they feel *angry* or *furious*. Read each statement and then fill in the circle with the number which indicates how *often* you *generally* react or behave in the manner described when you are feeling angry or furious. Remember that there are no right or wrong answers. Do not spend too much time on any one statement.

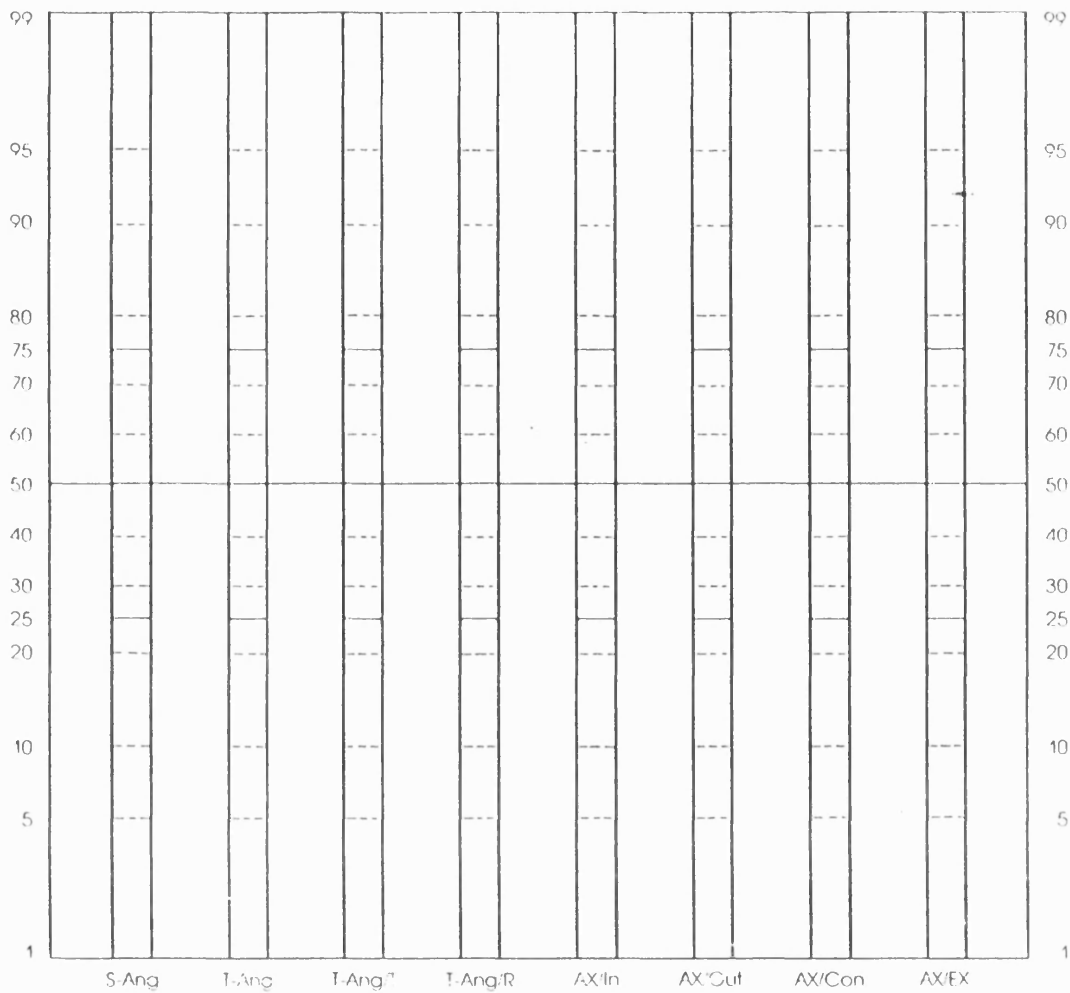
Fill in ① for *Almost never*
Fill in ② for *Sometimes*

Fill in ③ for *Often*
Fill in ④ for *Almost always*

When Angry or Furious...

21. I control my temper.
22. I express my anger.
23. I keep things in.
24. I am patient with others.
25. I pout or sulk.
26. I withdraw from people.
27. I make sarcastic remarks to others.
28. I keep my cool.
29. I do things like slam doors.
30. I boil inside, but I don't show it.
31. I control my behavior.
32. I argue with others.
33. I tend to harbor grudges that I don't tell anyone about.
34. I strike out at whatever infuriates me.
35. I can stop myself from losing my temper.
36. I am secretly quite critical of others.
37. I am angrier than I am willing to admit.
38. I calm down faster than most other people.
39. I say nasty things.
40. I try to be tolerant and understanding.
41. I'm irritated a great deal more than people are aware of.
42. I lose my temper.
43. If someone annoys me, I'm apt to tell him or her how I feel.
44. I control my angry feelings.

Profile Chart



Scoring Grid				
Norms Used	Scale	Raw Score	Percentile	T Score
High School _____	S-Ang	_____	_____	_____
	T-Ang	_____	_____	_____
College _____	T-Ang/T	_____	_____	_____
	T-Ang/R	_____	_____	_____
Adult _____	AX/In	_____	_____	_____
	AX/Out	_____	_____	_____
Other _____	AX/Con	_____	_____	_____
	AX/EX	_____	_____	_____

Additional copies available from:

PAR Psychological Assessment Resources, Inc.
P.O. Box 998/Odessa, Florida 33556/Toll-Free 1-800-331-TEST

Self-Rating Questionnaire

STAXI Rating Sheet (Form HS)



Name _____ Sex _____ Age _____ Date _____

Education _____ Occupation _____ Marital Status _____

PART 1

How I Feel Right Now

- | | | | | |
|----|-----|-----|-----|-----|
| 1 | (1) | (2) | (3) | (4) |
| 2 | (1) | (2) | (3) | (4) |
| 3 | (1) | (2) | (3) | (4) |
| 4 | (1) | (2) | (3) | (4) |
| 5 | (1) | (2) | (3) | (4) |
| 6 | (1) | (2) | (3) | (4) |
| 7 | (1) | (2) | (3) | (4) |
| 8 | (1) | (2) | (3) | (4) |
| 9 | (1) | (2) | (3) | (4) |
| 10 | (1) | (2) | (3) | (4) |

PART 3

When Angry or Furious

- | | | | | |
|----|-----|-----|-----|-----|
| 21 | (1) | (2) | (3) | (4) |
| 22 | (1) | (2) | (3) | (4) |
| 23 | (1) | (2) | (3) | (4) |
| 24 | (1) | (2) | (3) | (4) |
| 25 | (1) | (2) | (3) | (4) |
| 26 | (1) | (2) | (3) | (4) |
| 27 | (1) | (2) | (3) | (4) |
| 28 | (1) | (2) | (3) | (4) |
| 29 | (1) | (2) | (3) | (4) |
| 30 | (1) | (2) | (3) | (4) |
| 31 | (1) | (2) | (3) | (4) |
| 32 | (1) | (2) | (3) | (4) |
| 33 | (1) | (2) | (3) | (4) |
| 34 | (1) | (2) | (3) | (4) |
| 35 | (1) | (2) | (3) | (4) |
| 36 | (1) | (2) | (3) | (4) |
| 37 | (1) | (2) | (3) | (4) |
| 38 | (1) | (2) | (3) | (4) |
| 39 | (1) | (2) | (3) | (4) |
| 40 | (1) | (2) | (3) | (4) |
| 41 | (1) | (2) | (3) | (4) |
| 42 | (1) | (2) | (3) | (4) |
| 43 | (1) | (2) | (3) | (4) |
| 44 | (1) | (2) | (3) | (4) |

PART 2

How I Generally Feel

- | | | | | |
|----|-----|-----|-----|-----|
| 11 | (1) | (2) | (3) | (4) |
| 12 | (1) | (2) | (3) | (4) |
| 13 | (1) | (2) | (3) | (4) |
| 14 | (1) | (2) | (3) | (4) |
| 15 | (1) | (2) | (3) | (4) |
| 16 | (1) | (2) | (3) | (4) |
| 17 | (1) | (2) | (3) | (4) |
| 18 | (1) | (2) | (3) | (4) |
| 19 | (1) | (2) | (3) | (4) |
| 20 | (1) | (2) | (3) | (4) |

PAR Psychological Assessment Resources, Inc./P.O. Box 998/Odessa, FL 33556/Toll-Free 1-800-331-TEST

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APPENDIX H. NAS

NOVACO ANGER SCALE

PART A

The statements below describe things that people think, feel, and do. To what extent are they true for you? For each item indicate whether it is (1) never true, (2) sometimes true, or (3) always true. Use the scale on the right side by putting a circle around the number (1, 2, or 3) that fits your response to the statement.

	Never True	Sometimes True	Alw Tr.
1. I notice annoying things right away.	1	2	3
2. Once something makes me angry, I keep thinking about it.	1	2	3
3. Every week I meet someone I dislike.	1	2	3
4. I know that people are talking about me behind my back.	1	2	3
5. When I get angry, I stay angry for hours.	1	2	3
6. When I am trying to concentrate, I can't stand noise.	1	2	3
7. When I get angry, I let everyone know it.	1	2	3
8. I feel like picking a fist fight with someone.	1	2	3
9. I keep my feelings to myself.	1	2	3
10. I feel like smashing things.	1	2	3
11. When a person says something wrong to me, I just stop listening.	1	2	3
12. I can't sleep when I have been done wrong.	1	2	3
13. Some people irritate me just by opening their mouths.	1	2	3
14. Most people will do what they say they will do.	1	2	3
15. Some people would say that I am a hothead.	1	2	3
16. When I think about something that makes me angry, I get even more angry.	1	2	3

	Never True	Sometimes True	Always True
17. I can feel my heart pounding or beating fast.	1	2	3
18. I walk around in a bad mood.	1	2	3
19. My temper is quick and hot.	1	2	3
20. When someone yells at me, I yell back at them.	1	2	3
21. I have had to be rough with people who bothered me.	1	2	3
22. When a situation upsets me, I back away from it.	1	2	3
23. When I get angry, I throw or slam things.	1	2	3
24. If a person does something nasty, it sticks out in my mind.	1	2	3
25. People say, "Forgive and forget", but not me.	1	2	3
26. I don't like being crossed.	1	2	3
27. I used to think that most people told the truth, but now I know otherwise.	1	2	3
28. When I get angry, I get really angry.	1	2	3
29. Some people get angry and get over it, but for me it takes a long time.	1	2	3
30. My muscles feel tight and wound-up.	1	2	3
31. People can bother me just by being around.	1	2	3
32. If someone crosses me, I get back at them.	1	2	3
33. If I don't like somebody, I'll tell them off.	1	2	3
34. When I get mad, I can easily hit someone.	1	2	3
35. I would rather give in to someone than get into an argument.	1	2	3
36. When I get angry at someone, I take it out on whomever is around.	1	2	3
37. Once I get angry, I have trouble concentrating.	1	2	3
38. When someone makes me angry, I think about getting even.	1	2	3
39. A lot of people are suckers and just get what they deserve.	1	2	3

		Never True	Sometimes True	Always True
40.	When someone does something nice for me, I wonder about the hidden reason.	1	2	3
41.	If someone cheats me, I'd make them feel sorry.	1	2	3
42.	When I get angry, I feel like smashing things.	1	2	3
43.	When I get mad at someone, I give them the silent treatment.	1	2	3
44.	I feel restless and unable to relax.	1	2	3
45.	I get annoyed when someone interrupts me.	1	2	3
46.	I have a fiery temper that arises in an instant.	1	2	3
47.	Some people need to be told to "get lost."	1	2	3
48.	If someone hits me first, I hit them back.	1	2	3
49.	If someone makes me angry, I'll tell things about them to other people.	1	2	3
50.	If I don't like someone, it doesn't bother me to hurt their feelings.	1	2	3
51.	When I argue with someone, I raise my voice.	1	2	3
52.	I have trouble sleeping or falling asleep.	1	2	3
53.	When I get angry, I fly off the handle before I know it.	1	2	3
54.	When I start to argue with someone, I don't stop until they do.	1	2	3
55.	When I don't like somebody, there's no point in being nice to them.	1	2	3
56.	It makes my blood boil to have someone make fun of me.	1	2	3
57.	My head aches when people annoy me.	1	2	3
58.	A lot of little things bug me.	1	2	3
59.	Some people need to get knocked around.	1	2	3
60.	When I am tired, it is easy to annoy me.	1	2	3
61.	It bothers me when someone does things the wrong way.	1	2	3
62.	I feel like I am getting a raw deal out of life.	1	2	3

Following items describe situations that can make someone angry. The scale on the right side is for the degree or amount of anger. For each of these situations below, please indicate the amount of anger that you would feel if it actually happened to you. Circle around the number in the scale on the right side.

		Not at all angry	A little angry	Fairly angry	Very angry
1.	Being criticized in front of other people for something that you have done.	1	2	3	4
2.	You are in line to get something, and someone cuts in front of you.	1	2	3	4
3.	Seeing someone bully another person who is smaller or less powerful.	1	2	3	4
4.	People who act like they know it all.	1	2	3	4
5.	You are talking to someone, and they ignore you.	1	2	3	4
6.	Having someone look over your shoulder while you are working.	1	2	3	4
7.	In the middle of an argument, someone calls you a "stupid jerk."	1	2	3	4
8.	Not being given recognition for doing good work.	1	2	3	4
9.	You are trying to concentrate, but someone keeps making noise.	1	2	3	4
10.	People who think that they are better than you are.	1	2	3	4
11.	Getting cold soup or cold vegetables for dinner.	1	2	3	4
12.	Someone making fun of the clothes you are wearing.	1	2	3	4
13.	You are watching a TV program, when someone comes along and switches the channel.	1	2	3	4
14.	People who think that they are always right.	1	2	3	4
15.	You are carrying a cup of coffee, and someone bumps into you.	1	2	3	4
16.	Someone looks through your things without your permission.	1	2	3	4
17.	Being overcharged by someone for a repair.	1	2	3	4
18.	You need to get somewhere in a hurry, but you get stuck in traffic.	1	2	3	4

		Not at all angry	A little angry	Fairly angry	Very angry
19.	Someone who is always contradicting you.	1	2	3	4
20.	Just after waking-up in the morning, someone starts giving you a hard time.	1	2	3	4
21.	Being pushed or shoved in an argument.	1	2	3	4
22.	Being singled out for correction, when someone else doing the same thing is ignored.	1	2	3	4
23.	You make arrangements to do something with a person who backs out at the last minute.	1	2	3	4
24.	It's mealtime and you are hungry, and someone plays a practical joke on you.	1	2	3	4
25.	Being misled and deceived by someone.	1	2	3	4
26.	You lend something to someone, and they fail to return it.	1	2	3	4

APPENDIX I. PCL-R

THE HARE PCL-R:
INTERVIEW AND INFORMATION SCHEDULE

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Published by:
Multi-Health Systems, Inc.



(in the United States)
908 Niagara Falls Boulevard
North Tonawanda, New York 14120-2060

(in Canada)
65 Overlea Boulevard, Suite 210
Toronto, Ontario M4H 1P1

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Printed in Canada.

Printing: 1 2 3 4 5 6 7 8 9

Name: _____

Interviewer: _____

Date: ____/____/____

Part I: PCL-R Interview Schedule

The role of interviewing in PCL-R assessments is described in the *Manual* and the *Rating Booklet*. Interviewers may choose to develop their own semi-structured interview to elicit the information needed to make the PCL-R ratings. If this interview is used, interviewers should ask each of the numbered questions; however, they may vary the wording of questions as necessary, in order to make them comprehensible or to maintain rapport. Questions in square brackets [] are probes; they are asked only to prompt the individual for more detailed information.

A. SCHOOL ADJUSTMENT

1. How many different elementary schools did you attend? [Why did you change schools?]

2. How many secondary schools did you attend? [Why did you change schools?]

3. What was your attendance like in school? [How often did you skip out? Why? At what age(s)?]

4. What kind of grades did you get in school? [Did you ever fail a grade? Why? At what age(s)?]

5. How did you like school? [What did you like/dislike about it? Did you find it boring? Did you have any trouble paying attention? How would your teachers have described you (day-dreamer, hyper, etc.)?]

6. How did you get along with other kids at school? [Did you have any close friends?]

7. How was your behavior at school?

[Did you ever do rowdy things or get into trouble (for things like disturbing the class, being drunk/stoned at school, cheating, stealing, etc.)? How often? At what age(s)?]

[Did you get into physical fights? How often? At what age(s)? Did you start them, or did the other person? Did you ever hurt someone badly?]

[Were you ever suspended or expelled? How often? What for? At what age(s)?]

8. Did you graduate from high school? [IF NO, ASK: Did you quit school? When? Why?]

9. What did you do after leaving school?

10. Have you done any upgrading or taken any technical/vocational courses? [Describe it. How did you do?]

B. WORK HISTORY

1. What kind of work have you done in the past?

2. How many different jobs do you think you have had?

3. What was your longest job? What was the shortest?

ASK THE FOLLOWING QUESTIONS ABOUT THREE OF FOUR OF THE INDIVIDUAL'S LONGEST OR MOST RECENT JOBS:

[What was the position? What were the duties?]

[How long did you do that for? When?]

[Did you enjoy it? Did you find it boring? How was the money?]

[Why did you leave that job? Did you quit, or were you fired?]

4. Are you a reliable employee? [Are you a hard worker? How would your bosses describe you?]

[Did you ever get in trouble at work (for being late or absent, drinking/using drugs at work, etc.)? How often? At what age(s)?]

[Have you ever been fired? How often? At what age(s)?]

5. Did you ever leave a job with no other job lined up? [How often? Why? At what age(s)?]

6. Have you ever been unemployed? [How often? At what age(s)? For how long? How did you support yourself?]

[Were you looking for work? How seriously?]

7. Have you ever collected unemployment insurance, welfare, or some other form of social assistance?

[How many times? At what age(s)?]

8. On the street, how do you usually support yourself?

[Did you ever rely on someone else for food, money or lodging? Who? At what age(s)? For how long?]

[Did you ever support yourself through crime (e.g., selling drugs, thefts, mugging or rolling people, prostitution, pimping, frauds)? At what age(s)?]

C. CAREER GOALS

1. Is there any trade or occupation you would like to have? [How long have you wanted to do this? Have you planned or prepared for this trade/occupation in any way? What training do you require?]

2. What are your plans after release? [Where are you going to live? How will you support yourself?]

3. Do you have any long-term goals? [Where would you like to be in ten years?]

4. What problems might you have in achieving those goals?

D. FINANCES

1. Have you ever had a bank loan or a personal loan? [How many? At what age(s)? Did you pay it (them) back? Why/why not?]

2. How is your credit rating? [Did you ever fall behind on payment of your bills? How often? At what age(s)?]

3. Did you ever have to pay alimony or child support? [How much? Was it court-ordered? Did you pay it? Did you ever fall behind in your payments?]

E. HEALTH

1. Do you have any serious medical problems? [Describe them. When did they start?]

2. Have you ever seen a psychologist or psychiatrist? [What for? At what age(s)? In prison, or on the street? What was the diagnosis? What treatment(s) did you receive?]

[Have you ever been hospitalized for mental or emotional problems? What for? At what age(s)?]

3. As a child were you ever diagnosed as "hyperactive?" [By whom? At what age(s)? Did you get treatment?]

4. Were you ever on medications for your nerves? [What medications? What dosages? What for? Who prescribed them?]

5. Have you ever tried to commit suicide? [How many times? Why? At what age(s)? Were the attempts serious, or were they a means of getting attention?]

F. FAMILY LIFE

1. Were you raised by your natural parents? [Did you ever live with anyone else (step/adoptive/foster family, group home, etc.)? Who? At what age(s)? How did you come to live there?]

ASK THE FOLLOWING QUESTIONS ABOUT THE PRIMARY PARENTAL HOME(S):

[What was your home life like?]

[How did you get along with your parent(s)? Describe them. Were they affectionate towards you? What did they do for a living? Did they get along well together? Did they argue much? Did they ever have physical fights? Did they ever separate? How did this affect you?]

[Did you have any brothers or sisters? How did you get along with them?]

[Were things strict at your house? Were there lots of rules? How often did you break the rules (lie, run away, steal, etc.)? At what age(s)? Why? How were you punished?]

[Did anybody in your home have any troubles with the law? Who? What happened?]

[Did anybody in your home have any serious mental or physical problems? Who? What about problems with alcohol or drugs?]

ASK THE FOLLOWING QUESTIONS ABOUT THE INDIVIDUAL'S PRIMARY SURROGATE HOME(S):

[What was life there like?]

[Who else lived there? How did you get along with them?]

[Were things strict there? Were there lots of rules? How often did you break the rules (lie, run away, steal, etc.)? At what age(s)? Why? How were you punished?]

[Did anybody there have any troubles with the law? Who? What happened?]

[Did anybody there have any serious mental or physical problems? What about alcohol or drug problems?]

2. Were you ever abused physically, sexually, or emotionally? [By whom? At what age(s)? What happened?]

3. How old were you when you left home? [Why? At what age(s)? What did you do?]

4. Have you ever "hit the road" and traveled without real plans? [At what age(s)? What was the longest time you were gone? Where did you go? What did you do? Did you tell anyone you were going?]

5. What is your relationship with your family like now? [How often do you have contact with them?]
[What are they doing now? How are they?]

G. SEX/RELATIONSHIPS

1. How many live-in relationships have you had? (INCLUDE BOTH HETEROSEXUAL AND HOMOSEXUAL) [How many times have you been married or lived common-law?]

IF THE INDIVIDUAL HAS HAD NUMEROUS RELATIONSHIPS, ASK:
[Why have you had so many relationships?]

IF THE INDIVIDUAL DENIES ANY LIVE-IN RELATIONSHIPS, ASK:
[Have you ever had a serious girlfriend?]
[Have you ever had a homosexual relationship?]

FOR THREE OF THE LONGEST OR MOST RECENT LIVE-IN RELATIONSHIPS, ASK:

[How long did the relationship last? How old were you when it started?]

[Describe your partner. What did you like best about your partner? Were you in love with your partner, or was it just a physical relationship?]

[Was the relationship stable? Did you argue much? Did you ever have physical fights?]

[Why did the relationship end? How long did it take you to get over it?]

2. Have you ever been deeply in love? [With whom?]

3. How old were you when you first had a sexual relationship? [Was it with a stable partner, or a casual acquaintance?]

4. How many different sexual partners have you had? [How many were casual acquaintances ("one night stands")?]

5. Have you ever had relationships with more than one person at the same time? [Tell me about it.]

6. Have you ever been unfaithful to any of your partners? [How often? At what age(s)?]
[Did your partner ever find out? How did your partner react?]

7. Do you have any children or step-children? [How many? How old are they? What are their birthdates? What grade are they in at school?]
[Who was the mother? How long did you know her?]
[How is your relationship with your children? How often do you have contact with them?]

H. DRUG USE, ETC.

1. Do you use alcohol or drugs?
[What types? Since what age(s)?]
[Did you ever seriously abuse alcohol or drugs? Were you ever addicted?]
[Why do you use drugs (stimulation, escape, relaxation, etc.)?]
[Did alcohol or drugs ever interfere with your life a lot? Did you ever do anything dangerous or get into trouble when drunk or stoned (drive while impaired, get into fights, get arrested, etc.)?]

2. Do you ever do crazy or dangerous things for fun? [What types of things? At what age(s)?]

3. How often do you get into physical fights? [Have you ever "lost control?" What was the worst injury you ever caused someone?]

I. CHILDHOOD/ADOLESCENT ANTISOCIAL BEHAVIOR

1. When you were young, did you do anything rowdy outside of school (like vandalize things, set fires, hurt animals for fun, or steal)? [What? How often? At what age(s)?]
[Did you ever get caught? How were you punished? How did it affect you?]

2. Did you ever get into trouble with the police as a child? ("CHILD" MEANS AGE 12 AND BELOW)
[What for? At what age(s)?]

3. Were you ever arrested as a juvenile? ("JUVENILE" MEANS AGE 17 AND BELOW)
[How many times? At what age(s)? What for? Were you convicted?]

4. How old were you when you first started doing crime? [What kinds of things did you do?]
[Did you ever commit crimes and not get caught? What?]

J. ADULT ANTISOCIAL BEHAVIOR

1. What are you charged with (or serving time for) right now?

FOR EACH SPECIFIC OFFENSE, ASK THE FOLLOWING QUESTIONS:

[What happened? What did you do? What do the police say that you did?]

[Was the offense spontaneous, or was it planned?]

[Were you the only person involved, or were you with others? Did you know the victim? Were you drunk or stoned at the time of the offense?]

[How did you get arrested?]

-
-
-
-
-
-
-
-
2. Do you think your current charges (or sentence) will have any effect on your life?
[What type of effect? Good or bad?]
-
-
-

IF THE INDIVIDUAL IS SERVING A SENTENCE, ASK THE FOLLOWING QUESTIONS:

[How long is your sentence? Do you feel it is a fair one?]

[What kind of a job did your lawyer do?]

3. What other types of offenses have you been arrested for as an adult?
[What is the most serious offense you have ever committed? Describe it.]
-
-
-

4. Who or what is to blame for your offenses?
[Why do you commit crime?]
[Why did you start crime?]
-
-
-

IF THE INDIVIDUAL TAKES PERSONAL RESPONSIBILITY, ASK THE FOLLOWING QUESTIONS:

[What could you have done to avoid committing the offense?]

[Have you ever tried to stop crime? How?]

5. What would help to keep you out of crime?
-
-
-

6. Do you regret having committed any of your offenses? [Why/why not?]
-
-
-

7. What effect have your crimes had on the victims? [How do feel about the effect on the victims? Have you had contact with them?]
-
-
-

8. Are your crimes usually impulsive (spur-of-the-moment) or planned?

9. How do you feel when you are doing a crime? [Are you nervous? Excited? Scared?]
[Do you like doing crime?]

10. Did you ever commit crimes and not get caught? [What types? How often? At what age(s)?]

11. Have you ever breached parole or probation, escaped, gone UAL (unlawfully at large), or had a FTA (fail to appear at court)? [Which one(s)? How often? At what age(s)?]

12. Have you ever used aliases? [How often? Why?]

K. GENERAL QUESTIONS

1. Have you ever done anything that made you feel guilty or that you were sorry you had done (other than crime)?
[What did you do? Why did you feel badly about it?]

2. If the price were right, is there anything you would not do? [What?]

3. When you work at something for a long time, do you get bored easily?

4. Do you lie a lot? [How often? Are you good at it?]

5. Do you think that people are easy to "con" or manipulate? [Do you ever do it? What are some examples?]

6. Do people tell you that you have a "bad-temper"? [What types of things get you really angry?]
[What do you do when you are angry?]

7. How many close friends do you have? [How long have you known them? Do you keep in touch with them?]
[What makes a "close friend"?]

8. How do you feel about yourself? [How is your self-esteem? Rate your self-image on a scale of 1 to 10.]

9. Has anyone close to you died? [How did that affect you? How did you handle it? Did you go to the funeral?]

IF NO, ASK: [Has anyone close to you ever been seriously ill? How did that affect you? How did you handle it? Did you go to the hospital?]

10. What is the most depressed you have ever been?

11. What is the happiest you have ever been?

12. Are you satisfied with your life so far? [Is there anything missing in your life? What?]
[Is there anything about you that needs improvement?]

**L. OTHER INFORMATION (USE THIS SECTION TO RECORD OTHER COMMENTS OR TO
EXPAND ON COMMENTS FROM EARLIER QUESTIONS)**

Part II

PCL-R Collateral Information Schedule

The role of collateral information in scoring the PCL-R is described in the *Manual* and *Rating Booklet*. PCL-R users may wish to use this standardized schedule for recording this information. Of course, the type and detail of collateral information available varies across individuals and across settings; *it is not necessary to have complete information in order to score the PCL-R*. Listed below are only general headings; if information is available under a heading, record as much relevant detail as possible.

A. DEMOGRAPHIC DATA

1) Age and date of birth:

2) Sex:

3) Race and ethnic background:

B. FAMILY HISTORY

1) Description of family and childhood experiences:

2) Type and frequency of behavior problems at home:

3) Family history of mental illness:

4) Family history of criminal behavior:

5) Family history of drug and alcohol abuse:

C. EDUCATIONAL HISTORY

1) Years of formal education:

2) Academic performance and behavior at school:

3) Upgrading, apprenticeship, or training programs:

D. EMPLOYMENT HISTORY

1) Current or most recent occupation

2) Past employment (including position, location, dates, performance):

3) Illegal occupations:

E. MARRIAGE/COMMON-LAW RELATIONSHIPS

1) Marital history (number and length of marriages/common-law relations):

2) Number of children:

3) Relationship with spouse(s) and/or children:

4) Approved institutional visitors and relationship to subject:

F. MEDICAL HISTORY

1. Psychiatric History (Diagnoses, treatments, medications)

a) Childhood:

b) Adolescence:

c) Adulthood:

d) Hospitalizations:

e) Current treatments:

f) Additional comments from psychiatric reports:

2. Physical History

a) Major illnesses and hospitalizations:

b) Chronic conditions:

c) Neurological status:

d) Current status:

e) Additional comments from nursing/medical reports:

G. CRIMINAL HISTORY

1. Juvenile

a) Age at first contact:

b) Number and type of offenses:

c) Other behavioral problems in the community:

2. Adult

a) Age at first contact:

b) Number and type of previous offenses:

c) Number and type of current offenses:

d) Police description of current offenses:

e) Suspected criminal activity:

f) Noncriminal legal problems:

H. SUBSTANCE USE HISTORY

1. Drugs

a) Age at first use:

b) Type, frequency, and severity of drug use:

2. Alcohol

a) Age at first use:

b) Frequency and severity of alcohol use:

I. INSTITUTIONAL BEHAVIOR

1) Number and type of behavior problems:

2) Number and type of institutional charges and convictions:

3) Additional comments from staff reports:

J. PSYCHOLOGICAL TEST RESULTS

1) Results of personality assessment:

2) Results of intellectual assessment:

3) Results of neuropsychological assessment:

4) Additional comments from psychological reports:

1) Comments from family and friends:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

APPENDIX J. HCR-20

HCR-20 Coding Sheet

Name _____ DOB ____ / ____ / ____ ID# _____ Date ____ / ____ / ____
 Administrator Name _____ Signature _____ Title _____

Historical Items (See manual for more detailed information.) 0 = No/absent, 1 = Partially/possibly present, 2 = Yes/definitely present	Code (0, 1, 2)
Previous Violence	
Young Age at First Violent Incident	
Relationship Instability	
Employment Problems	
Substance Use Problems	
Major Mental Illness ☐ Coded from current or past mental health evaluations ☐ Provisional until confirmed by mental health evaluation	
Psychopathy ☐ Coded from current or past mental health evaluations ☐ Provisional until confirmed by mental health evaluation	
Early Maladjustment	
Personality Disorder ☐ Coded from current or past mental health evaluations ☐ Provisional until confirmed by mental health evaluation	
Prior Supervision Failure	
Historical Items Total	/ 20

Clinical Items (See manual for more detailed information.) 0 = No/absent, 1 = Partially/possibly present, 2 = Yes/definitely present	Code (0, 1, 2)
Lack of Insight ☐ Coded from current or past mental health evaluations ☐ Provisional until confirmed by mental health evaluation	
Negative Attitudes	
Active Symptoms of Major Mental Illness ☐ Coded from current or past mental health evaluations ☐ Provisional until confirmed by mental health evaluation	
Impulsivity	
Unresponsive to Treatment	
Clinical Items Total	/ 10

Risk Management Items ☐ In ☐ Out (See manual for more detailed information.) 0 = No/absent, 1 = Partially/possibly present, 2 = Yes/definitely present	Code (0, 1, 2)
Plans Lack Feasibility	
Exposure to Destabilizers	
Lack of Personal Support	
Noncompliance with Remediation Attempts	
Stress	
Risk Management Items Total	/ 10

HCR-20 Total	/ 40
---------------------	-------------

Other Considerations	Code (0, 1, 2)

Final Risk Judgment	☐ Low ☐ Moderate ☐ High
----------------------------	--

Please use the reverse side of this sheet for comments.

APPENDIX K. BIS-10

Personal Evaluation: BIS-11

Name: _____

Date: _____

Directions: People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement carefully and **DARKEN THE APPROPRIATE CIRCLE** to the right of the statement. Answer quickly and honestly.

Rarely/Never
Occasionally
Often
Almost Always

- | | | | | | |
|-----|--|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. | I plan tasks carefully..... | ☐ | ☐ | ☐ | ☐ |
| 2. | I do things without thinking..... | ☐ | ☐ | ☐ | ☐ |
| 3. | I make up my mind quickly..... | ☐ | ☐ | ☐ | ☐ |
| 4. | I am happy-go-lucky..... | ☐ | ☐ | ☐ | ☐ |
| 5. | I don't "pay attention"..... | ☐ | ☐ | ☐ | ☐ |
| 6. | I have "racing" thoughts..... | ☐ | ☐ | ☐ | ☐ |
| 7. | I plan trips well ahead of time..... | ☐ | ☐ | ☐ | ☐ |
| 8. | I am self-controlled..... | ☐ | ☐ | ☐ | ☐ |
| 9. | I concentrate easily..... | ☐ | ☐ | ☐ | ☐ |
| 10. | I save regularly..... | ☐ | ☐ | ☐ | ☐ |
| 11. | I "squirm" at plays or lectures..... | ☐ | ☐ | ☐ | ☐ |
| 12. | I am a careful thinker..... | ☐ | ☐ | ☐ | ☐ |
| 13. | I plan for job security..... | ☐ | ☐ | ☐ | ☐ |
| 14. | I say things without thinking..... | ☐ | ☐ | ☐ | ☐ |
| 15. | I like to think about complex problems..... | ☐ | ☐ | ☐ | ☐ |
| 16. | I change jobs..... | ☐ | ☐ | ☐ | ☐ |
| 17. | I act "on impulse"..... | ☐ | ☐ | ☐ | ☐ |
| 18. | I get easily bored when solving thought problems..... | ☐ | ☐ | ☐ | ☐ |
| 19. | I act on the spur of the moment..... | ☐ | ☐ | ☐ | ☐ |
| 20. | I am a steady thinker..... | ☐ | ☐ | ☐ | ☐ |
| 21. | I change where I live..... | ☐ | ☐ | ☐ | ☐ |
| 22. | I buy things on impulse..... | ☐ | ☐ | ☐ | ☐ |
| 23. | I can only think about one problem at a time..... | ☐ | ☐ | ☐ | ☐ |
| 24. | I change hobbies..... | ☐ | ☐ | ☐ | ☐ |
| 25. | I spend or charge more than I earn..... | ☐ | ☐ | ☐ | ☐ |
| 26. | I have outside thoughts when thinking..... | ☐ | ☐ | ☐ | ☐ |
| 27. | I am more interested in the present than the future..... | ☐ | ☐ | ☐ | ☐ |
| 28. | I am restless at lectures or talks..... | ☐ | ☐ | ☐ | ☐ |
| 29. | I like puzzles..... | ☐ | ☐ | ☐ | ☐ |
| 30. | I plan for the future..... | ☐ | ☐ | ☐ | ☐ |

APPENDIX L. EIS

INSTRUCTIONS: Please answer each question by putting a circle around the 'YES' or 'NO' following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the questions.

PLEASE REMEMBER TO ANSWER EACH QUESTION

PAGE 1

1	Would you enjoy water skiing?	YES	NO
2	Usually do you prefer to stick to brands you know are reliable, to trying new ones on the chance of finding something better?	YES	NO
3	Would you feel sorry for a lonely stranger?	YES	NO
4	Do you quite enjoy taking risks?	YES	NO
5	Do you often get emotionally involved with your friends' problems?	YES	NO
6	Would you enjoy parachute jumping?	YES	NO
7	Do you often buy things on impulse?	YES	NO
8	Do unhappy people who are sorry for themselves irritate you?	YES	NO
9	Do you generally do and say things without stopping to think?	YES	NO
10	Are you inclined to get nervous when others around you seem to be nervous?	YES	NO
11	Do you often get into a jam because you do things without thinking?	YES	NO
12	Do you think hitchhiking is too dangerous a way to travel?	YES	NO
13	Do you find it silly for people to cry out of happiness?	YES	NO
14	Do you like diving off the high-board?	YES	NO
15	Do people you are with have a strong influence on your moods?	YES	NO
16	Are you an impulsive person?	YES	NO
17	Do you welcome new and exciting experiences and sensations, even if they are a little frightening and unconventional?	YES	NO
18	Does it affect you very much when one of your friends seems upset?	YES	NO
19	Do you usually think carefully before doing anything?	YES	NO
20	Would you like to learn to fly an aeroplane?	YES	NO
21	Do you ever get deeply involved with the feelings of a character in a film, play or novel?	YES	NO
22	Do you often do things on the spur of the moment?	YES	NO
23	Do you get very upset when you see someone cry?	YES	NO
24	Do you sometimes find someone else's laughter catching?	YES	NO
25	Do you mostly speak without thinking things out?	YES	NO
26	Do you often get involved in things you later wish you could get out of?	YES	NO

PLEASE TURN OVER

27 Do you get so 'carried away' by new and exciting ideas, that you never think of possible snags?	YES	NO
28 Do you find it hard to understand people who risk their necks climbing mountains?	YES	NO
29 Can you make decisions without worrying about other people's feelings?	YES	NO
30 Do you sometimes like doing things that are a bit frightening?	YES	NO
31 Do you need to use a lot of self-control to keep out of trouble?	YES	NO
32 Do you become more irritated than sympathetic when you see someone cry?	YES	NO
33 Would you agree that almost everything enjoyable is illegal or immoral?	YES	NO
34 Generally do you prefer to enter cold sea water gradually, to diving or jumping straight in?	YES	NO
35 Are you often surprised at people's reactions to what you do or say?	YES	NO
36 Would you enjoy the sensation of skiing very fast down a high mountain slope?	YES	NO
37 Do you like watching people open presents?	YES	NO
38 Do you think an evening out is more successful if it is unplanned or arranged at the last moment?	YES	NO
39 Would you like to go scuba diving?	YES	NO
40 Would you find it very hard to break bad news to someone?	YES	NO
41 Would you enjoy fast driving?	YES	NO
42 Do you usually work quickly, without bothering to check?	YES	NO
43 Do you often change your interests?	YES	NO
44 Before making up your mind, do you consider all the advantages and disadvantages?	YES	NO
45 Can you get very interested in your friends' problems?	YES	NO
46 Would you like to go pot-holing?	YES	NO
47 Would you be put off a job involving quite a bit of danger?	YES	NO
48 Do you prefer to 'sleep on it' before making decisions?	YES	NO
49 When people shout at you, do you shout back?	YES	NO
50 Do you feel sorry for very shy people?	YES	NO
51 Are you happy when you are with a cheerful group and sad when the others are glum?	YES	NO
52 Do you usually make up your mind quickly?	YES	NO
53 Can you imagine what it must be like to be very lonely?	YES	NO
54 Does it worry you when others are worrying and panicky?	YES	NO

■ PLEASE CHECK THAT YOU HAVE ANSWERED ALL THE QUESTIONS

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APPENDIX M. SUBSTANCE USE QUESTIONNAIRE

REDFORD LODGE HOSPITAL

Substance Use Profile

Section A.

Name: _____ Age: _____
Ward: _____ Date of Admission: _____
Legal Status: _____ Diagnosis (if known): _____
Date of Profile: _____ Completed by: _____

B. Substance Use

<i>Substance</i>	<i>Recent</i> ✓ or X and E, R or D	<i>Past</i> ✓ or X and E, R or D	<i>What do you want to do?</i>
Nicotine			
Alcohol			
Cannabis			
Amphetamines			
Opiates			
Hallucinogens			
Cocaine/Crack			
Ecstasy			
Solvents			
Tranquilisers			

(E)xperimental

(R)ecreational

(D)ependent

Details of recent use (what, how, when?)

Details of past use (what, how, when?)

Section C.

1. Patient's view of the relationship between substance use, mental health and problem behaviours.

2. Are there any previous reports of a relationship between substance use, mental health and problem behaviours? (See notes)

3. Is there any disparity between 1 and 2?

Section D.

1. Has the patient received any treatment for drugs and alcohol in the past? Please describe it.

 2. What is the patient's attitude towards addressing current issues with drugs and alcohol?
- Has insight: Full ☐ Partial ☐ None ☐
- Is motivated to address issues? Very ☐ Moderately ☐ Not at all ☐
- Suitable for group? Yes ☐ Perhaps ☐ No ☐

Section E.

- 1. **What are the views of significant others (parents/siblings/relationship/friends) towards use of substances?**

- 2. **Do significant others use substances?**

Section F. **Recommendations for therapy.**

APPENDIX N. OAS

FIGURE 1. The Overt Aggression Scale

OVERT AGGRESSION SCALE (OAS) Stuart Yudofsky, M.D., Jonathan Silver, M.D., Wynn Jackson, M.D., and Jean Endicott, Ph.D.		
IDENTIFYING DATA		
Name of Patient	Name of Rater	
Sex of Patient: 1 Male 2 Female	Date / (mo da yr)	
	Shift: 1 Night 2 Day 3 Evening	
☐ No aggressive incident(s) (verbal or physical) against self, others, or objects during the shift. (check here)		
AGGRESSIVE BEHAVIOR (check all that apply)		
VERBAL AGGRESSION ☐ Makes loud noises, shouts angrily ☐ Yells mild personal insults, e.g., "You're stupid!" ☐ Curses viciously, uses foul language in anger, makes moderate threats to others or self ☐ Makes clear threats of violence towards others or self. (I'm going to kill you.) or requests to help to control self.	PHYSICAL AGGRESSION AGAINST SELF ☐ Picks or scratches skin, hits self, pulls hair, (with no or minor injury only) ☐ Bangs head, hits fist into objects, throws self onto floor or into objects, (hurts self without serious injury) ☐ Small cuts or bruises, minor burns ☐ Mutilates self, makes deep cuts, bites that bleed, internal injury, fracture, loss of consciousness, loss of teeth.	
PHYSICAL AGGRESSION AGAINST OBJECTS ☐ Slams door, scatters clothing, makes a mess ☐ Throws objects down, kicks furniture without breaking it, marks the wall ☐ Breaks objects, smashes windows ☐ Sets fires, throws objects dangerously	PHYSICAL AGGRESSION AGAINST OTHER PEOPLE ☐ Makes threatening gesture, swings at people, grabs at clothes ☐ Strikes, kicks, pushes, pulls hair, (without injury to them) ☐ Attacks others causing mild-moderate physical injury (bruises, sprain, welts) ☐ Attacks others causing severe physical injury (broken bones, deep lacerations, internal injury)	
Time incident began: : am/pm	Duration of incident: : (hours/minutes)	
INTERVENTION (check all that apply)		
☐ None ☐ Talking to patient ☐ Closer observation ☐ Holding patient	☐ Immediate medication given by mouth ☐ Immediate medication given by injection ☐ Isolation without seclusion (time out) ☐ Seclusion	☐ Use of restraints ☐ Injury requires immediate medical treatment for patient ☐ Injury requires immediate treatment for other person
COMMENTS		

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