EXAMINING THE UTILITY OF ASSESSMENT TOOLS AND GROUP INTERVENTION PROGRAMMES FOR MENTALLY DISORDERED OFFENDERS

by

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Thesis submitted to the University of Birmingham for the degree of Doctorate in Forensic Psychology in Practice (ForenPsyD)

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July 2011

Abstract

This thesis examines the utility of assessment tools and interventions with mentally disordered offenders (MDOs). A systematic review of the literature explores what can be learnt from efficacy studies of structured group work programmes, focusing upon the evidence base for 'what works'. It is concluded that there is evidence for the effectiveness of cognitive-behavioural interventions with MDOs but that more rigorous research needs to be conducted. The reliability and validity of the Social Problem Solving Inventory (SPSI) assessment tool is investigated and the limitations of using this tool in practical and research settings is discussed; with particular emphasis on the utility of the tool for research with MDOs. Finally, a novel group-work intervention; the Reasoning and Rehabilitation 2 (R&R2) programme, is investigated. The findings suggest that the R&R2 can be delivered successfully and is effective in reducing antisocial attitudes and beliefs. The low drop-out rate and responsive design of the programme has implications in assisting policy makers and practitioners to make decisions about management and treatment; as well as allocation of resources. The complexities of working with MDOs are highlighted throughout the thesis and the utility of the findings are discussed in relation to future research and intervention strategies.

Dedication

I would like to take the opportunity to thank my friends and family for their continued support, without them none of this would have been possible. In particular I would like to thank my parents, Robin and Lyndsay, and my sister Rhiannon for inspiring me to dream boldly:

"Until one is committed, there is hesitancy, the chance to draw back, always ineffectiveness, concerning all acts of initiative (and creation). There is one elementary truth the ignorance of which kills countless ideas and splendid plans: that the moment one definitely commits oneself, then Providence moves too. All sorts of things occur to help one that would never otherwise have occurred. A whole stream of events issue from the decision, raising in one's favour all manner of unforeseen incidents and meetings and material assistance which no man could have dreamed would have come his way. Whatever you can do, or dream you can, begin it. Boldness has genius, power and magic in it. Begin it now."

Johann Wolfgang Von Goethe

Acknowledgements

First and foremost I would like to express my thanks to the participants of the research project without whom this study would not have been possible. I would especially like to thank Dr Susan Young for the opportunity to research the efficacy of the R&R2 programme and for her invaluable advice, support and feedback. I would like to thank Prof Gisli Gudjonsson for his words of wisdom and support and I also want to extend a special thank you to my tutor Dr Louise Dixon for her support and feedback.

Thanks must also go to the services and teams that made the research project possible. I would particularly like to thank the members of staff at the units who provided help and encouragement. In particular I would like to extend my thanks to: Dr Emma Regan; Ms Karen Allen; Dr Lona Lockerbie; Ms Jennifer Dillane; Ms Pippa Dunleavey; Dr Tim Green; Ms Carly Anderson, Ms Sonia Bourghino, Ms Tiffany Rafferty, Dr Pamela Dearsley, Ms Nikki Karahaliou; Ms Emily Goodwin and Ms Cornelie Savona.

Thanks also go to the following organisations and their staff:

- Oxleas NHS Foundation Trust: The Bracton Centre and Memorial Hospital
- South London and Maudsley NHS Foundation Trust: River House and Bridge House
- Cygnet Hospitals: Blackheath, Lewisham Lodge, Stevenage and Beckton
- Kent and Medway NHS and Social Care Partnership Trust: Trevor Gibbens Unit
- Barnet, Enfield and Haringey Mental Health Trust: Camlet Lodge

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Chapter 1

Introduction

Definition of Mentally Disordered Offenders

There is currently no universally agreed definition of 'mentally disordered offenders' (MDOs) and an obvious limitation of the recent literature are the differences in the definition of MDOs used by researches and practitioners. For example, some studies have included personality disordered patients within their sample (e.g. McMurran, Huband & Duggan, 2008) whereas others have seen this as an exclusion criterion (e.g. Beck-Sander, Griffiths & Friel, 1998). MDOs reside in a variety of settings including psychiatric and forensic services as well as in the community. There are also cultural and legal differences in the definition of mental disorder, which continue to evolve alongside the developments in our knowledge base, making this a potentially contentious area.

Section 1 of the Mental Health Act 2007 provides a definition of mental disorder as "any disorder or disability of the mind", the definition employed by the Crown Prosecution Service (CPS), this includes diagnoses such as: Schizophrenia, major affective disorders and personality disorders. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) is perhaps the most widely used classification system of mental disorders. However, classification is another area of contention as the reliability and validity of classification systems of mental illness (e.g. categorical vs. non-

categorical) are often debated. These discussions, although important to consider, are outside the scope of this review of the literature which will instead focus upon the characteristics and prevalence of MDOs as well as treatment considerations for working effectively with MDOs.

Perhaps in the simplest form of the definition most practitioners and researchers would agree that the term 'mentally disordered offenders' is an umbrella term that encompasses people who have (or are under investigation for) a psychiatric disorder and who have come into contact with the criminal justice system. The Home Office (2008) and The Sainsbury Centre (2008) offer a succinct definition and term MDOs as offenders who have severe and enduring mental health problems and who have been compulsorily admitted to hospital. No definition is wholly satisfactory however, as it is evident that this is a heterogeneous group of offenders.

Characteristics of MDOs

Müller-Isberner and Hodgins (2000) state that MDOs often present with several co-morbid mental disorders and have poor psychosocial functioning as well as typically having a long history of offending behaviour. MDOs also typically have: less than average verbal intelligence, difficulties concentrating, low self-esteem, substance use and poor problem solving (Tyrer, Gunderson, Lyons & Tohen, 1997; Young & Ross, 2007). There is also a suggestion that MDOs diagnosed with paranoid schizophrenia have impaired neurological functioning; though this is a contentious area as the DSM-IV states that there is little or no impairment on neurological tests for the majority of those diagnosed with a mental illness.

Research suggests that there is an association between mental illness and aggression, especially prevalent within those people residing in inpatient psychiatric settings (Daffern & Howells, 2002; Novaco, 1986); which is unsurprising as patients have often been sectioned due to violent behaviours which require detainment for public and self protection. Anger is believed to co-occur with a number of psychiatric disorders, including personality and mood disorders, and is believed to be especially prevalent in those diagnosed with paranoid schizophrenia (Novaco, 2003). The likelihood that mentally disordered offenders will be aggressive is also believed to be much higher if patients are in an acute phase of their illness (Daffern & Howells, 2002). However, the factors associated with aggression in mentally disordered offenders appears to vary considerably (Novaco, 1996); including different experiences of psychosis, the clinical setting and individuals response to stress.

Prevalence of MDOs

The Sainsbury Centre (2008) estimates that as many as nine out of ten prisoners suffer with mental health difficulties and that around 20% of male and 15% of female prisoners have experienced an admission to a psychiatric unit at some point in their life. The Ministry of Justice (2008) report that at the end of 2008 there were 3,937 MDOs detained in hospital and that this was a 1% increase from the previous year (see Figure 1 for a breakdown of the number of restricted patients detained in secure hospitals between 1998 and 2008). The number of admissions to hospital increased by 3% between 2007 and 2008, however, positively the number of patients recalled to hospital after a conditional discharge fell 10%

during this time. When looking at recidivism, the Ministry of Justice (2008) reported that 7%, of 1,500 patients that were discharged for the first time between 1999 and 2006, offended within two years of discharge (2% for violent and sexual offences and 1% for 'grave offences'; e.g. murder, serious wounding and arson).

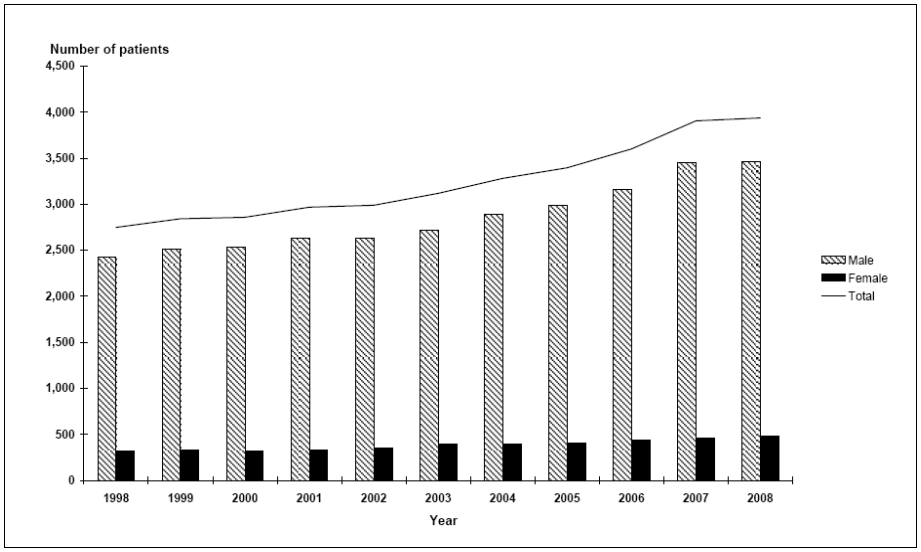

Figure 1: *Number of restricted patients detained in secure hospitals between 1998 and 2008; reproduced from the Ministry of Justice Home Office Statistical Bulletion (2008).*

Risk and MDOs

In the past it was presumed that mental illness was the cause of offending behaviour, however this view is considered outdated and researchers suggest that mental illness is one factor that needs to be considered but that this is not the sole risk factor. A consistent research finding is that forensic psychiatric patients tend to exhibit poor social problem-solving skills (D'Zurilla, Nezu & Maydeu-Olivares, 2002). McMurran, Egan, Blair and Richardson (2001c) suggest

that poor social problem-solving may lead to criminal behaviours and believe that an offence is a maladaptive attempt to work through the negative emotional states that the individual is experiencing.

Risk of offending among persons who develop Schizophrenia is said to be higher than other mental disorders; also those who develop major affective disorders are at increased risk of committing violent offences (Brennan, Mednick & Hodgins, 2000). Hodgins (1992) states that men who have a mental health disorder are four times more likely to commit a violent offence than other men without this disorder and Bloom and Wilson (2000) suggest that physical altercations are particularly common in this group. However, there is as yet no clear causal link between schizophrenia and violence. Research has also shown that personality disorders are often associated with antisocial behaviour and that offenders who meet the criteria for a personality disorder are at a greater risk of committing further crimes (Blackburn, 2000).

Treatment non-adherence, characterised by a patient's failure to conform to remediation attempts, is one of the biggest challenges in mental health services and is linked to relapse and high economic costs due to re-hospitalisation (Perkins, 2002). Approximately one in four patients with psychosis are not compliant with treatment programmes (Nosé, Barbui & Tansella, 2003). This has wide clinical implications as patients suffering from psychosis require longer-term treatment. It is therefore surprising that there is a shortage of research into factors affecting treatment non-adherence in psychological therapy.

Psychologically Informed Methods and MDOs- 'What works'?

Therapists in mental health settings are frequently confronted with aggressive clients (DiGiuseppe & Tafrate, 2003) and therefore interventions that reduce the risk of violence are vital. Establishing 'what works' is of huge importance both ethically and fiscally. There is of course a need to treat the primary mental disorder and co-morbid disorders as well as the offending behaviour; however the focus of these chapters is on the psychological treatment of MDOs whilst acknowledging the role of other mental health researchers and practitioners.

There was a perception that people with mental health difficulties and in particular those with personality disorders were untreatable, however, it is evident that there are a number of effective interventions that are successful for such clients. What is clear is that where treatment may differ is in the length and intensity of the treatment needed (Alwin, Blackburn, Davidson, Hilton, Logan & Shine, 2006). For MDOs there is currently no standard treatment and no single intervention has been found to be most effective (Bateman & Fonagy, 1999). McMurran et al. (2001c) suggest that poor social problem-solving leads to criminal behaviours and, as previously mentioned, that an offence is a maladaptive attempt to work through the negative emotional states that the individual is experiencing. Therefore, they suggest a combination of skills training and cognitive reappraisal will be the most effective forms of intervention.

The cognitive-behavioural treatment (CBT) approach is most widely used and postulates that dysfunctional thoughts, emotions and behaviours can be modified through reappraisal. The benefits of this approach are that it is often time-limited and can be relatively brief compared to other therapeutic techniques. The objective is to help the client to identify and monitor thoughts and beliefs that mediate their behavioural response and to reappraise and restructure these into more realistic and useful ones; therapy is therefore constructed in a systematic and goal-orientated way. Research shows that emotional arousal interferes with information processing and increases the likelihood of antisocial behaviours (Novaco, 2003) and therefore cognitive-behaviour therapy is seen as especially relevant because it aims to target faulty-cognitions. The most effective techniques have been found to be: relaxation, skills training and cognitive restructuring (and therapies that combine these) (Beck & Fernandez, 1998). An increase in problem-solving skills is also said to lead to a reduction in other problems associated with mental health disorders (Birchwood & Jackson, 2001).

Prochaska and DiClemente's (1982) 'Stages of Change' model suggests that the effectiveness of interventions will depend on what stage the person is at on the stages of change model. This model posits that persons move from pre-contemplation to contemplation, then action followed by maintenance or relapse. DiGiuseppe, Tafrate and Eckhardt (1994) believe that those people who present for treatment in correctional and mental health settings are in the pre-contemplation stage of change where interventions are likely to be less effective. However, motivational interviewing techniques (Miller & Rollnick, 2002) have been found to aid and enhance a person's motivation to change in order for them to reach the contemplation

and preparation stages of the cycle where treatment and intervention is more likely to be successful.

The 'What works' movement combines research and theory in order to inform practice. Andrews and Bonta (2006) introduced the 'Risk, Need and Responsivity' model. Due to the heterogeneous nature of the group, it was suggested that it was important for interventions to be targeted for the offender's specific risk and needs and for these treatments to be responsive to the diverse complexities and individual differences of the person. Andrews and Bonta (2006) believed that criminogenic needs should be targeted as these factors are shown empirically to be linked to risk of recidivism. The 'risk principle' has important implications for treatment planning as this highlights the importance of the level of risk in determining the intensity of the treatment offered to individuals. This approach stressed the importance of targeting criminogenic needs in addition to clinical needs (Hodgins, 2000).

Novaco, Ramm and Black (2001) suggest an extended assessment phase before commencement of treatment when carrying out interventions with mentally disordered clients. This extended assessment phase along with an incorporation of motivational interviewing techniques (such as: expressing empathy; developing discrepancy and supporting self-efficacy) then enables the therapist to establish what intervention is most likely to succeed. The therapeutic relationship has been widely researched and is pivotal for treatment success, therefore such individualised assessments allow for the possibility of a more developed therapeutic alliance (DiGiuseppe, 1995).

Difficulties of work and research with MDOs

Research shows that problems are encountered in the treatment of persons with mental health disorders due to the high rates of drop-out from interventions which lead to poor outcomes (Alwin et al., 2006). Lefley (2009) states that mental health patients are prone to attend treatment groups erratically which is likely to impact upon treatment success. There are also difficulties in engaging clients in therapy due to the problems they experience in interacting appropriately and effectively in interpersonal situations. These complexities need to be taken into account when designing offending behaviour programmes (OBPs).

Persons diagnosed with personality disorders can find it particularly difficult to engage in cognitive therapies as they may have problems in recognising the processes that are operating and may be very uncomfortable in accepting positive feedback from therapists. For clients whose confirmatory biases are very maintained it can be difficult for them to learn through experiences in a rational and logical manner. Often in treatment programmes personality disordered offenders have been separated from other patients diagnosed with other mental illnesses, e.g. in the case of psychopathy which used to be an exclusion criteria for participation in the sex offender treatment programme (SOTP) in the prison service. However, other treatment programmes do not see personality disorder as an exclusion criterion (e.g. R&R). Research suggests that clients with personality disorders are most likely to benefit most from focussed and structured intervention programmes where they work collaboratively with the therapist (Bateman & Fonagy, 2004).

The Sainsbury Centre (2008) suggested that collaborative working relationships are an important factor in treatment success for MDOs; echoing McCabe & Priebe's (2004) sentiments. They also highlight the need for a combination of different interventions to be used to take account of the complex needs of MDOs (with OBPs as only one component of treatment). However, MDOs are likely to benefit from OBPs that are adapted to take into account their level of functioning and clinical complexity.

Another area for further investigation is the selection of assessment tools and outcome measures for use with MDOs. Some tools have been designed for use specifically with this population, for example the HCR-20 structured risk assessment tool (Webster, Douglas, Eaves & Hart, 1997), whereas others have been adopted directly from research with offenders without mental health difficulties (e.g. The Social Problem Solving Inventory- Revised, SPSI-R; D'Zurilla et al., 2002). As the evidence base and our knowledge about MDOs grows, the reliability, validity and selection of such measures requires further investigation.

Justification of Thesis

Currently the empirical base for working effectively with MDOs is extremely limited in comparison to other research areas, for example treatments for sexual offenders, and studies demonstrating the effectiveness of OBPs delivered in secure hospitals are very limited. Forensic mental health services have begun to introduce and evaluate OBPs and report some success. However, there is clearly scope for further research to determine the efficacy of these

programme as the research that has been conducted in this area appears to be as heterogeneous as the population being studied. Investigations differ widely in the methodology used with large variations in sample sizes and methods of evaluation (see Chapter 2, p.42-49). What is yet to be firmly established is whether or not there is a need for specialist interventions, whether current treatments can be adapted to suit the complex needs of MDOs or whether novel treatments need to be designed and evaluated.

There is a clear need for more research to be carried out to establish the utility of structured group work programmes with MDOs. Müller-Isberner and Hodgins (2000) believe that treatment programmes need to be based upon empirical evidence and that evaluation of these is key in order that programmes can be refined and their efficacy increased. The Sainsbury Centre (2008) also recognise the need for further research in this area and the importance of the continuing evolvement of interventions; specifically they argue for more robust research to be conducted. These suggestions are echoed by almost all authors publishing in this field at the current time and therefore it is hoped that the following chapters will add significantly to the literature in this area.

Overview

This introductory chapter outlined the literature in relation to mentally disordered offenders and provided the context of this thesis for the reader. In particular the focus was upon the existing evidence base of 'what works', in terms of treatment, with this population. The

complexities of MDOs were discussed and the difficulties associated with working with such a heterogeneous group described. Finally, the importance of further research and investigation into the utility of assessment and intervention tools with MDOs is highlighted.

Chapter 2 is a systematic literature review, which examines the evidence base for the effectiveness of cognitive-behavioural offending behaviour group treatments with MDOs. Specifically, several research questions are investigated in relation to this aim looking at: 1) what evidence there is for the effectiveness of offending behaviour group treatments with MDOs 2) what the long-term treatment outcomes for MDOs attending offending behaviour group programmes are 3) what differences there are between outcomes for MDOs and comparison groups 4) and establishing whether there are differences between methods of evaluating offending behaviour programmes. The final objective of the review is to make suggestions for the future design of evaluations of offending behaviour groups with MDO populations.

Chapter 3 explores the psychometric properties of a self-report measure used widely in the evaluation of group work programmes. The reliability and validity of the assessment tool is discussed and the limitations of using this tool in practical settings and in research is high;ighted; with particular emphasis on the utility of this tool for research with MDOs.

Chapter 4 is an empirical research study which examines the effectiveness of a newly developed programme for MDOs in secure settings, the Reasoning and Rehabilitation 2. The

overall aim of the research is to evaluate programme efficacy by looking at: how successful the programme is at retaining participants; assessing differences between completers and non-completers of the group and assessing change in the key target areas of the programme. Suggestions are also made for future research.

Chapter 5 links all the findings together along with previous literature. The overall findings are discussed in relation to future research and specifically in connection with the development of future intervention programmes.

Chapter 2

A Systematic Review of: The Efficacy of Structured Offending Behaviour Group Programmes for Mentally Disordered Offenders

Abstract

Aims and Objectives

This review aims to systematically examine the research evidence to investigate the effectiveness of cognitive-behavioural offending behaviour group treatments with mentally disordered offenders (MDOs). Specifically, several research questions are investigated in relation to this aim: 1) What evidence is there for the effectiveness of offending behaviour group treatments with MDOs? 2) What are the long-term treatment outcomes for MDOs attending offending behaviour group programmes? 3) What differences are there between outcomes for MDOs and comparison groups? 4) Are there differences between methods of evaluating offending behaviour programmes? The final objective of the review is to make suggestions for the future design of evaluations of offending behaviour groups with MDO populations.

Method of Study Selection

Scoping methods were employed to assess the need for the review. Following this a systematic search was carried out of experimental studies that met the inclusion/exclusion and quality criteria using four search strategies: i) search of electronic databases; ii) searching reference lists from relevant reviews; iii) hand-searching key journals in the field; and iv) contacting experts in the field. Data were then extracted from the included studies and assessed following a qualitative approach due to the heterogeneous nature of the information.

Results

In total 18 studies were included in the review, 14 UK and 4 international studies. The sample sizes varied from 4 to 83 and over 50 outcome assessments were used across the studies. Four main intervention types were evident: (1) those training patients in problem-solving skills; (2) anger management training; (3) relapse prevention; and (4) an 'other' group which included interventions such as self-esteem enhancement. Only three of the studies incorporated a control group into their design with nine studies assessing solely the treatment group. Another area of wide variation was that of programme duration with programmes ranging between six sessions and six years. Overall the evidence for effectiveness is questionable and not as yet generalisable due the heterogeneous nature of the intervention type, population characteristics and overall differences in methodologies.

Conclusions

The findings from the current review highlight important areas for development; particularly in terms of the methodology used to evaluate programme efficacy with this population. The review findings must be viewed with caution due to the variance in quality of studies as well as the limitations introduced by study methodology and the heterogeneity of the mentally disordered offender population. Areas for future research are also suggested.

Background

This review takes a systematic approach to identify those studies of high quality that address the efficacy of structured offending behaviour group programmes with MDOs.

Background to Offending Behaviour Programmes with Mentally Disordered Offenders (MDOs)

Individuals with a mental health disorder are considered to be much more likely to commit a violent offence than members of the general population and therapists in mental health settings are frequently confronted with aggressive clients; suggesting an association between mental illness and antisocial behaviour (Daffern & Howells, 2002; Hodgins, Cree, Alderton, & Mak, 2008; Novaco, 1986). Hodgins (1992) states that men who have a mental health disorder are four times more likely to commit a violent offence than are other men and Bloom

and Wilson (2000) suggest that physical altercations are particularly common in this group. As such targeted interventions to reduce antisocial behaviour are vitally important. Cognitive skills interventions, including work with persons suffering from mental health problems, have been supported by a number of reviews (Dixon & Goldman, 2004; Hollin & Palmer, 2009; Kendrick 1999).

Interventions have been shown to have a positive effect on reducing offending and antisocial behaviour (Blud, Travers, Nugent, & Thornton, 2003; McGuire, 2002) and a number of manualised programmes have been developed that attempt to reduce the rates of reoffending through cognitive skills training; as research indicates that offenders either lack or have poor cognitive and social skills (Porporino, Fabiano & Robinson, 1991). The efficacy of these interventions in mental health settings has been supported (Dixon & Goldman, 2004; Hollin, 2009; Kendrick 1999) with the most widely adopted programmes being: Reasoning and Rehabilitation (R&R; Ross, Fabiano & Ewles, 1988) and the Enhanced Thinking Skills programme (Clark, 2000). A review by Antonowicz (2005) highlighted the efficacy of the R&R programme in a variety of settings with heterogeneous offenders.

The 'What Works' literature highlights the importance of matching individuals to treatment in order to maximise success in reducing reoffending. Although cognitive skills programmes have been shown to be effective with mentally disordered offenders (Timmerman, Emmelkamp & Sanderman, 1998) there is a dearth of research reviewing the evidence relating to the efficacy of such programmes. Current thinking is that interventions that are specifically

targeted (in terms of content and pace) and that are delivered in a systematic way will see an improvement in completion as well as having a positive effect on reducing rates of recidivism (following Andrews & Bonta's, 2006, 'responsivity principle') and as such research currently appears to be focusing on structured and targeted treatment programmes.

Existing Reviews

A scoping exercise was carried out during June 2009 to assess the likely volume of studies and to identify any existing reviews. This preliminary search was conducted using the Cochrane Library, Google Scholar, PsycINFO, MEDLINE, Web of Knowledge and EMBASE. Reviews appear to be very limited in this area with only one systematic review being indentified. This was by Duncan, Nicol, Ager, and Dalgleish (2006) who carried out a review of structured group interventions with MDOs. The search involved three databases (EMBASE, MEDLINE and PsychINFO) and the authors searched for papers published between 1980 and 2002. They identified 20 studies and concluded that there was evidence for the efficacy of structured group interventions with MDOs; particularly those that focussed on problem-solving techniques and anger management. However, in a structured abstract format the Centre for Reviews and Dissemination (2009) completed a review of this publication and highlighted concerns about the authors' conclusions because the review methods are not reported; meaning that it is difficult to assess potential biases. Also Duncan et al. (2006) do not clearly state how they extracted the data for the review.

Although the previous systematic review indicated some evidence for positive outcomes of offending behaviour programmes for MDOs, the limitations of that research mean that there is a need for further exploration of this topic. It was also apparent, from the scoping searches employed prior to the current review being initiated, that there have been further publications of research looking at the efficacy of programmes for MDOs. It is therefore believed that the current review is a valuable addition to the literature in this area.

Aims and Objectives of the Current Review

The aim of the review is to systematically examine the effectiveness of cognitive-behavioural offending behaviour group treatments with MDOs. Specifically, several research questions are investigated, where possible, in relation to this aim:

1. What evidence is there for the effectiveness of offending behaviour group treatments with MDOs?

2. What are the long-term treatment outcomes for MDOs attending offending behaviour group programmes?

3. What differences are there between outcomes for MDOs and comparison groups?

4. Are there differences between methods of evaluating offending behaviour programmes?

The final objective of the current review is to make suggestions for future design of offending behaviour programme evaluations.

Method

Search Strategy and Search Terms

Prior to the initiation of this study a scoping search was conducted in order to establish the likely volume and quality of publications to answer the objectives. Following this, in order to identify primary studies for inclusion, a thorough and systematic search was conducted. Relevant publications for inclusion in the review were identified using four search strategies:

1) Search of electronic databases.

A search of electronic databases was conducted to help identify references. This included:

- Cochrane Library [all years on 15th June 2009]
- Google Scholar [all years on 15th June 2009]
- OVID: MEDLINE (R) [1950 to August week 4 2009]
- OVID: EMBASE [1980 to week 36 2009]

- OVID: PsycINFO [1987 to August week 5 2009]
- Science Direct [1980 to present (August week 4 2009)]
- ISI Web of Science (via Web of Knowledge) [all years (to present- August week 4 2009)]

The gateway Cochrane Library and Google Scholar database were searched for existing reviews in the area prior to the standardised search (see below) being employed on the other electronic databases.

Search Strategy and Search terms for the electronic databases:

These databases were accessed electronically and as such this places constraints on the search strategy. A standardised search strategy was applied to all of the databases; however, all search terms were modified to meet the requirements of each database (such as differences in the search fields) which introduces some variation. Also the search was restricted to English-language publications only due to time constraints and resources not allowing for translation of publications. Non-research based publications (such as book chapters, editorials or comment papers) were excluded from the search; although most were reviewed for background information to inform this review and for relevant references that may meet the study criteria for inclusion.

The following terms were entered into the search:

(mentally disordered offender* OR mentally ill offender*)

AND

(cognitive therapy OR cognitive behaviour therapy OR group psychotherapy OR group work OR problem solving OR social skills training OR offending behaviour programme* OR anger management OR anger control OR reasoning and rehabilitation OR enhanced thinking skills)

Keywords and exploded search terms were used in order to reduce the number of studies that may be lost due to incorrect coding. This has the limitation that it increases the number of duplicates and non-relevant publications but the benefit that it increases the likelihood of identifying all the relevant papers and allows for a more consistent search across the different databases.

See Appendix 1 for the search terms used for the OVID database searches.

2) Reference lists of reviews discussing evaluations of offending behaviour programmes for MDOs were hand searched for studies matching the current inclusion criteria.

3) Key journals were hand searched for further relevant studies: The Journal of Forensic Psychiatry and Psychology (all volumes: 1990 to August 2009) and The British Journal of Forensic Practice (all volumes: 1999 to August 2009).

4) Expert contact: Two clinicians working in the area of offending behaviour programme evaluation were contacted via email to identify any further references and suggest publications to be considered for inclusion.

5) The above searches were updated on 8th June 2011 to identify any further papers meeting the criteria for inclusion. An additional 15 papers were sourced, of which 2 met inclusion criteria.

Study Selection

Prior to the studies being assessed on the basis of the inclusion/exclusion criteria, the identified papers were manually sorted in order to eliminate the obviously irrelevant studies (as judged from the title or abstract of the publication). The studies that remained were then subject to the inclusion/exclusion criteria (detailed below).

- Inclusion/Exclusion criteria

Inclusion/exclusion criteria (see Table 1) were developed based upon a review of the literature and from the initial scoping of the searches. These were then applied to all of the studies that

remained; following the initial sift for irrelevant publications. If there was not enough information included in the abstract of the study then the full text publication was assessed to establish whether the study fitted the criteria. Studies that satisfied the criteria were included for quality assessment.

Table 1: *PICOS Table*

	Inclusion	Exclusion
Population	Mentally disordered offenders. Male. Aged 18 years and over.	Female offenders. Adolescents and those younger than 18 years. Offenders without a mental health problem. Offenders with a learning disability.
Intervention	Structured group offending behaviour programme (e.g. ETS, R&R, problem-solving, social-skills training). Based on a cognitive or cognitive-behavioural approach.	No group therapy. Group therapy from a perspective other than cognitive or cognitive-behavioural.
Comparison/ Control	No group therapy, or those with mental health problems who have not offended, or offenders without mental health problems.	
Outcome	Short and long-term effects on antisocial and offending behaviour (e.g. recidivism). Effect on problem-solving ability. Factors associated with outcome. Pre/post treatment change (e.g. using psychometrics).	Patient satisfaction. Inpatient care or needs. Inpatient characteristics.
Study Design	Experimental.	Narrative reviews; editorials; commentaries; book chapters or opinion papers; case study; observational (i.e. cohort, case control or cross sectional).
Time Period	Post 1980's (due to differences in definition of mental health problems).	Pre 1980's.

- Quality Assessment

Once it had been established whether the studies satisfied the inclusion/exclusion criteria the publications were assessed for their methodological quality. This was assessed using two steps:

Step 1: Threshold criteria

- Clear classification of mental disorder.
- Clear description of the structured group work intervention.
- Clear description of outcome measures.

If studies did not meet these three threshold criteria they were not included for review for poor study quality.

Step 2: Quality assessment forms

The studies that met the threshold criteria were then assessed using the quality assessment form (see Appendix 2).

The following scoring system was applied:

Condition not met (N) = 0

Unclear or insufficient information (U) = 0.5

Condition fully met (Y) = 1

The primary reviewer assessed all studies. Due to time constraints a secondary reviewer (a postgraduate psychology student from the University of Birmingham) assessed 40% of the studies obtained in order to ensure the assessment of quality was consistent. Differences greater than 2 points in quality ratings (equivalent of 10%) were discussed and resolved by consensus. The overall quality score of the publication was determined by totalling the score of each item assessed (not including the three screening/threshold criteria questions) and the higher the score the higher the quality of the study was deemed to be. By scoring the U ('unclear') items the clarity of reporting was assessed, the higher the U score the less clear the reporting was deemed to be (this is reported in brackets under the quality assessment score; see Table 2). From this a quality percentage was calculated, which ranged from 37% to 87%.

Studies which did not receive a score of 50% or over were excluded from the current review (see Appendix 4 for table of these and other studies that were subject to the inclusion/exclusion criteria). This relatively low cut off was selected as although several papers had lower quality scores they were deemed to be relevant regarding important variables such as: population, structured group programme and outcome measures. The inclusion of

studies with a lesser quality allows for a more in-depth discussion of a wider range of issues relevant to the efficacy of structured offending group programmes with MDOs. The decision to use a low cut-off may have produced some bias however the conclusions and recommendations of the review are based upon those studies assessed as being of good (above 70% cut-off) or excellent (above 80% cut-off) quality.

Eighteen studies that met the inclusion/exclusion criteria and were assessed to be of enough quality were included in the review. Figure 2 shows the process of the study selection and details the number of studies that were included at each stage of the process. Table 2 shows the characteristics of the eighteen included studies as a result of the quality assessment. As is evident from Table 2 the studies used a variety of statistical techniques to analyse their data. Also, Table 2 describes the numerous different assessments that were used to evaluate the programmes.

- Data Extraction

Relevant data was extracted from studies that met the quality criteria using a pre-determined pro forma (see Appendix 3) which ensured that the same information was extracted from each of the studies. The number of unclear or unanswered questions was also noted for each study (when information was hard to decipher from the article). Due to the time frame of the review authors of the studies could not be contacted in order to request more information for clarification; as such this information remained unknown. The data extraction form allowed

for the re-verification of the studies eligibility (looking at the inclusion and exclusion criteria), along with more specific information including: population characteristics, methodology, programme characteristics, outcome measures and analyses.

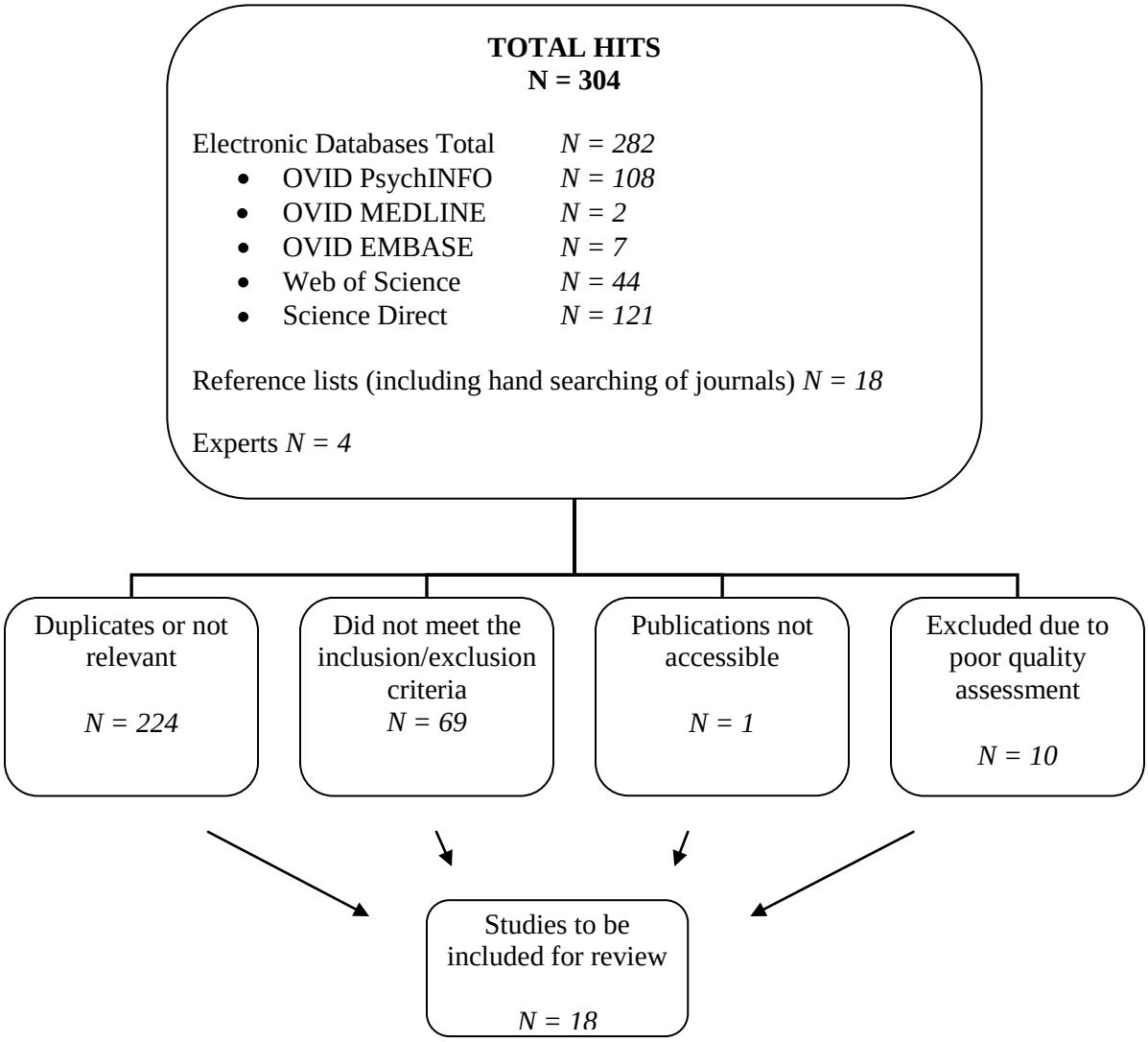

Figure 2: *Search results and process of study selection.*

Table 2: *Characteristics of the eighteen studies included as a result of the quality assessment.*

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
Beck-Sander et al. (1998) 53% (11)	To explore whether a relapse prevention group has a positive effect on patients recovering from psychosis.	Cognitive-behavioural relapse prevention group.	16 patients (who had committed a crime whilst actively mentally ill) were split into 2 treatment groups (n=5) and a control group who received standard care (n=6)	Springfield Hospital Medium Secure hospital (England).	Control group received standard care (n=6).	Mulhall's Personal Questionnaire Rapid Scaling Technique (1978)	There was a significant increase in group member's estimations of the likelihood of their relapsing. / There was a non-significant tendency towards an increasing perception of control over illness and decrease in depression in group members. / There were no significant changes in the control group.	Small sample size./ No longer term follow up. / Only one outcome measure which was self-report. / No control group.
Donnelly & Guy (1998) 59% (4)	Evaluation of a cognitive-behavioural group intervention aimed at addressing offending behaviour.	The offending behaviour programme was based upon the Reasoning and Rehabilitation programme; it was adapted for the setting and run over 10 sessions and involved the teaching of cognitive skills and behavioural methods.	12 patients, from two wards, all detained under the Mental Health Act (Scotland, 1984) with a criminal record for a violent offence and history of antisocial behaviour.	State hospital (Scotland).	None.	The Impulsiveness (IVE) Questionnaire (Eysenck &Eysenck, 1991). / The Social Comparison Scale (Allan & Gilbert, 1995). / The State-Trait Anxiety inventory (STAI) (Spielberger et al, 1970). / The Alternative Thinking Test (ATT) (Spivack & Platt, 1980). / The Ward Atmopshere Scale (WAS) (Moos & Houts, 1968).	No significant differences were found.	Small sample size. / Self-report measures used. / No longer-term follow up. / Possibility of effects from medication.
Donnelly & Scott	Evaluation of	Problem-solving	12 male patients	State hospital	Control group	The Rosenzweig	There was a significant	Small sample size. /

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
(1999) 71% (5)	cognitive skills training with mentally disordered offenders to measure changes in self-control, problem-solving abilities, self-esteem, social comparison and locus of control.	training and teaching of cognitive skills. Addresses cognitive deficits and distortions in areas of self-control, thinking style, locus of control, and problem solving.	(from two wards) attended the treatment programme. 12 patients from the same wards were used as controls.	(Scotland).	received standard care (n=12).	Picture Frustration (P-F) Study (Rosenzweig, 1978). / The Means-End Problem Solving Procedure (Platt &Spivack, 1975). / The Culture-Free Self-Esteem Inventory, 2nd Ed. (Battle, 1992). / The Social Comparison Scale (Allan & Gilbert, 1995). / The Nowicki-Strickland Internal/External Scale (Nowicki & Duke, 1974).	difference in pre and post means on the P-F measure, but not between groups, and MEPS procedure. There were no significant differences within or between groups on measures of self-esteem, social comparison or locus of control. There is no treatment effect or time effect evident from the results.	Possibility that difference between groups were not controlled for (e.g. medication differences, personality disorders). / There is no longer-term follow up.
Hodel & West (2003) 74% (3)	Evaluation of an 'In vivo Training of goal-directed actions' (IVTA) programme.	10 session programme consisting of 3-parts: focusing skills, sorting thoughts and goal-directed actions using behavioural interventions.	13 male patients with a primary diagnosis of Schizophrenia.	State hospital (USA).	Treatment group used as own control via a baseline/ waiting-list condition (AB design to substitute for a control group).	Figures Deletion Test (Fahrenberg et al., 1977). / Syllable-memorizing Test (Fahrenberg et al., 1977). / Self-report (Suellwold & Herrlich, 1990). / Nurses' Observation Scale for Inpatient Evaluation	The IVTA participants showed considerable changes in all 4 tests. The baseline results were comparable to the pre-group scores and there was a significant difference between baseline and post-group scores. There was no significant improvement in psychopathology. The BPRS did not show any significant change on psychiatric symptoms.	Small sample size. / Some self-report measures used (though are some more objective measures). / AB design means control and treatment group are not run parallel and so other variables (such as time) are not controlled for, also the A phase was shorter than the B phase.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
						(NOSIE) (Honigfeld et al., 1966). / Brief Psychiatric Rating Scale (BPRS) (Overall & Gorham, 1962).		
Jones & Hollin (2004) 74% (3)	Evaluation of an anger management programme for mentally disordered offenders.	36 week cognitive-behavioural treatment programme (Managing Problematic Anger) aimed at patients: developing arousal reduction techniques, engaging in cognitive restructuring and acquiring behavioural skills to respond appropriately to cues.	8 male patients with a PD diagnosis and with previous convictions for violence (index offences of murder and grievous bodily harm).	High security hospital (England).	None.	State Trait Anger Expression Inventory-2 (STAXI-2, Speilberger, 1999). / Novaco Anger Scale (NAS, Novaco, 1994). / Emotion Control Questionnaire (ECQ, Roger & Najarian, 1989). / Aggression Questionnaire (AQ, Buss & Perry, 1992). / Behavioural Rating Protocol (hospital's own).	STAXI-2: decrease seen in state and trait anger expression and increase in the anger control outwards; decrease in anger control inwards seen post-treatment. / NAS: improvements in all domains and reduction in intensity of anger experienced in relation to provocation. / AQ: reductions in all components of scale. / ECQ: positive direction of change across all domains. / Beh. Rating: marked decreases seen towards the end of treatment (c. week 28).	Small sample size. / Behavioural Rating Protocol not a validated instrument. / A combination of group and individual sessions was used and so unsure where impact lies. / No control group was used.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
Laithwaite et al. (2007) 55% (4)	Evaluation of a standardised group programme for improving self-esteem in individuals with psychosis.	10 week cognitive-behavioural programme with the aim of patients acquiring new skills in monitoring, noting and rehearsing positive qualities; also cognitive restructuring and appraisal of behaviours.	15 participants with a primary diagnosis of Schizophrenia who experienced low self-esteem.	Rampton High security hospital (England).	None.	3 self-esteem measures: Rosenberg Self-Esteem measure (RSE, Rosenberg, 1965). Robson Self-Concept Questionnaire (RSCQ, Robson, 1989). Self-Image Profile for Adults (SIP-AD, Butler & Gasson, 2004). / Psychiatric symptomology: The Positive and Negative Syndrome Scale (PANS; Kay et al., 1987). PSYRATS (Haddock et al, 1999). Beck Depression Inventory- II (BDI-2, Beck et al., 1996).	An overall significant effect was seen for improvements in self-esteem (except for the RSCQ scale). / There were no significant effects on the PANSS positive and negative scales. / The PSYRATS delusions scale showed a positive change. / An overall effect was seen on the BDI-II and PANSS depression scales.	Small sample size. / No control group.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
McMurran et al. (2008) 69% (7)	Comparison of treatment completers of a personality disorder treatment programme, those removed from treatment for rule breaking and those removed for not engaging in treatment.	Described in an earlier paper: a multi-component, multidisciplinary treatment programme for male personality disordered offenders. This involved the following programmes: (1) The Personality Disorder Unit: A research treatment programme for personality disordered offenders; (2) Psychoeducation; (3) Trust and self awareness; (4) Stop & Think!; (5) Controlling angry aggression; (6) Controlling substance use; (7) Criminal thinking/belief therapy; and (8) Skills for living.	Treatment completer n = 21; Expelled for rule breaking n = 20 and those removed because of not engaging in treatment n = 19.	Arnold Lodge Medium Secure Unit (England).	Non-completers of the treatment programme.	Social Problem-Solving Inventory Revised (SPSI:R, D'Zurilla et al., 2002). / State-Trait Anxiety Inventory (STAI, Speilberger, 1999).	There was no significant difference between the 3 groups on SPSI: R scores. / When the non-completer groups are grouped together there is a significant difference between them and the completer group (completers score higher on RPS scale and lower on ICS scale than non-completers which is desirable). / The STAI scores did not differ across groups.	Small sample size. / Generalisability. / Only self-report measures used.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
McMurran et al. (2001a) 60% (5)	Evaluation of 'Stop & Think' a social problem solving intervention with male personality disordered patients.	Stop & Think aims to improve problem identification, problem specification, goal setting and creativity in generating potential solutions to problems.	N = 14, male personality disordered patients were followed up at three and nine months after completion of group. Scores for 8 of these patients were then taken again at a 15 month follow up.	Arnold Lodge Medium Secure Unit (England).	None.	Social Problem-Solving Inventory Revised (SPSI:R, D'Zurilla et al., 2002).	A significant improvement was recorder on all scales and subscales of the SPSI: R; apart from the PPO scale. / For those followed up at 15 months the change was maintained with no further improvement.	Small sample size. / Patients attended other treatment groups alongside this intervention. / Patients scores varied from the normative sample at the initial testing which limits generalisability. / No report of baseline data-only the follow data is presented. / Non control group.
McMurran et al. (2001b) 69% (3)	Evaluation of a 'Controlling Angry Aggression' programme	Controlling angry aggression is a 15-session cognitive-behavioural programme that aims to enhance motivation to change, increase action planning and control of anger triggers and anger arousal and to provide social skills training.	N = 4, male patients with a criminal history and a personality disorder diagnosis.	Medium Secure Unit (England).	None.	State-Trait Anger Inventory, (STAXI, Spielberger, 1996). / Buss-Durkee Hostility Inventory – Dutch Adaptation, (BDHI-D, Lange et al., 1995). / A behaviour rating was used, to be completed by ward staff (Hospitals own). / Patients were asked to self-monitor their anger experience in a log rating their anger intensity and behaviour on a scale. (Hospitals own).	STAXI scores: 3 patients showed improvements in profile (though only 1 showed improvements on all scales), 1 patient showed increases in non-preferred profile. / BDHI-D scores: 3 patients showed changes in the preferred direction on both scales, 1 patient showed increase in overt aggression (rather than the preferred decrease) and decrease in covert aggression. / There was no change in behaviour evident. / Self-monitoring varied markedly over time.	Small sample size. / No control group. / No statistics reported.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
McMurran et al. (1999) 65% (4)	Evaluation of a pilot social-problem solving intervention.	The aims of the 6-week intervention were to improve patient's abilities to define problems clearly, produce and analyse a range of potential solutions and to select and implement an effective action plan.	N= 9 male patients, mentally disordered offenders. 5 patients were in group 1 and 4 in group 2 (of the same treatment programme).	Leicestershire NHS trust: Secure psychiatric unit (England).	None.	Social Problem-Solving Inventory Revised (SPSI:R, D'Zurilla et al., 2002). / State-Trait Anxiety Inventory (STAI, Speilberger, 1999).	There was a significant improvement in total problem solving and a reduction in negative problem orientation and impulsivity/ carelessness style (which is desirable).	Small sample size. / No control group. / Only one self-report measure used, no other measures of clinical change.
Morris & Moore (2009) 71% (5)	An evaluation of group work as an intervention to reduce the impact of substance misuse for mentally disordered offenders.	Cognitive-behavioural group work programme. The groups run with a minimum of 4 patients and a maximum of 7. This runs weekly but it is not stated what the duration of the programme is. The programme looks at patient's patterns of use, effects of choices and actions, discussion and psycho-education elements and relapse prevention skills including practice of coping skills.	N = 30, male patients with a history of substance misuse participated in 4 groups. N = 22 completed the programme, N = 8 dropped out.	Broadmoor High security hospital (England).	None, but completers were compared with non-completers.	Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES, Miller & Tonigan, 1996). / The Psychological Inventory of Drug-based Thinking Styles (PIDTS, Walters & Willoughby, 2000). / A non-self report measure of substance misuse was also completed via incident reports. / A semi-structured interview schedule was also used to assess patients'	There were no significant differences found between completers and dropouts on any variable other than number of previous groups attended- those who had attended groups previously were more likely to complete the substance misuse programme. / SOCRATES: significant reduction in ambivalence scores, no change in recognition and taking steps scores. / PIDTS: significant differences in a positive direction on 4 scales	Small sample size. / No control group. / Patients were not all in the same treatment group so there may be effects from this that are not controlled for.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
						general experiences of participation in the group work.		
Quayle & Moore (1998) 68% (3)	Evaluation of s structured group-work intervention for mentally disordered offenders.	Two groups were run, the Interpersonal Relationships (IPR) group focusing on adaptive interpersonal relationships and the Anger Management Group (AM) focusing on interpretations of events; both are based on cognitive-behavioural principles. The AM group ran weekly over 9 months (with breaks between modules) and the IPR group ran (partly in parallel) weekly over 7 months.	N = 16: AM group N = 10; IPR group N = 8; both groups N = 2.	Broadmoor High security hospital (England).	None, each group was evaluated separately (IPR and AM).	IPR group : Inventory of Interpersonal Problems (IIP) (Horowitz et al, 1988). / AM group : Anger Inventory (Hospital's own, based on Novaco, 1975). / Simple Rathus Assertiveness Schedule (SRAS, McCormick, 1984). / Nurse ratings of relationships with peers and staff.	IIP: 3 scales (assertive, responsible & controlling) reached significance. / There was a significant increase in assertiveness scores on the SRAS and in rating of relationships with peers. / No change in AI 'how react' scale and non-significant improvement in 'how angry' scale. / Also non-significant improvement in ratings of relationships with staff.	Small sample size. / Self-report evaluations used. / Question over reliability & validity of nurse measure.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
Rice (1983) 55% (7)	Assessment of the success of a social-skills training programme: Patients were randomly assigned to either a social-skills training or a client-centred therapy group and given either contingent or noncontingent reinforcement for social behaviour.	The social skills group involved 10-weeks of social skills training. There were 4 groups (of 4/5 patients). Modeling, behaviour rehearsal and feedback techniques are included. / The Client-centred therapy conditions lasted 10-weeks with sessions focusing on discussion of patients' interpersonal problems. 4 groups were (with 4/5 patients).	Potential participants had to reach a minimum level in the ward token-economy programme of which 65 did. These participants were assessed for social competence. The 36 patients who received the lowest scores & who agreed to participate took part in the treatment of which 28 were available for follow-up measures.	Maximum security hospital (Canada).	The social skills group were compared to the client-centred therapy group.	Ward rating scales: Communication & Social Contact subscales of the Ellsworth MACC Behavior Adjustment Scale (1971); the Socialization Level of the Social Adjustment Rating Scale (Aumack, 1962). / Role-plays: 6 role-plays were completed with situations designed to assess level of social skills. From this 2 scales were assessed: 'Positive social skills' & 'Negative social skills'.	Positive social skills: Social-skill subjects showed significantly more improvement on role-play measures of positive social skill than did client-centered subjects. / Negative social skills: there was a significant improvement from pre to post test for social-skills participants. / Ward ratings: Client-centred clients improved / Overall positive effects of treatment were seen with social-skills training participants showing more significant change. / Follow-ups showed no significant difference.	No control group. / Reliability and validity of measures is uncertain.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
Stermac (1986) 83% (4)	Efficacy of a short-term cognitive-behavioural intervention with forensic patients.	The anger control treatment lasts 6 sessions and consisted of cognitive-behavioural techniques. The sessions included identification and recognition of personal anger patterns, examination of assumptions and expectations and coping strategies. / The psycho education group also lasts 6 sessions and provided basic information on psychiatry, psychology and law.	N = 40, participants were randomly assigned to anger control treatment (N = 20) or the control group (N = 20). All participants were held on remand and had a mental health diagnosis and an IQ score of 90 or above.	Metropolitan Toronto Forensic Service, a secure hospital (Canada).	Control group-did not receive anger control treatment but instead received a psycho educational programme.	Novaco Provocation Inventory (NPI, Novaco, 1975). / The Porteus Mazes-Vineland Revision (PM:R, Porteus, 1965). / The Coping Strategies Inventory (CSI, Tobin et al., 1982).	NPI: subjective levels of anger significantly decreased after anger control treatment relative to controls. / CSI: anger treatment group members demonstrated significantly more use of cognitive restructuring strategies and less use of self-denigration strategies than controls. / PM:R: both groups decreased their impulsivity following treatment, the anger control group did not significantly differ from controls pre or post treatment.	Small sample size. / No behavioural measures used. / No longer-term follow-up.
Tapp et al. (2009) 87% (1)	An evaluation of the 'Enhanced Thinking Skills' (ETS) programme with mentally disordered offenders/	A total of 10 ETS courses were run over 6 years and ran for a total of 20 sessions. The course modules included interpersonal problem,-solving, self-control, perspective taking and moral and critical reasoning.	N = 83, male patients detained under the Mental Health Act (1983) with criminal histories.	Broadmoor High security hospital (England).	None.	Clinical outcomes in routine evaluation – outcome measure (CORE-OM, Evans et al., 2002). / The psychological inventory of criminal thinking styles (PICTS, Walters, 1995). / Social problem solving inventory (SPSI, Freedman et	PICTS: significant differences between pre and post scores. / CORE-OM: no significant differences found between pre and post scores. / SPSI: significant effect on the scales of aggression and passivity in the desired direction. / Analysis showed no significant difference between completers and non-completers on demographic or clinical features. / Those convicted of sexual	No control group. / No longer-term follow up. / All self-report measures, no behavioural or staff measures used. / Missing data on psychometrics. / Some participants had previously completed the ETS course and effects of this were not assessed. /

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
						al., 1978).	offences were significantly more likely to complete the programme, as were those with more previous convictions.	
Timmerman & Emmelkamp (2005) 73% (7)	An examination of the effects of a cognitive-behavioural treatment for forensic inpatients.	The treatment programme aimed to modify maladaptive coping and social skills, enhance social awareness, reduce egoistic and oppositional behaviour, and reduce psychological complaints.	N = 39, all male patients who have committed serious crimes and have a mental health diagnosis. (N = 60 were asked to participate, N = 10 refused and N = 11 were unable to take part.)	High security hospital (The Netherlands).	None.	The Symptom Checklist (SCL-90, Arrindell & Ettema, 1986; Derogatis, 1977). / The Dissociation Questionnaire (DIS-Q, Vanderlinden et al., 1993). / The Nederlandse Persoonlijkheids Vragenlijst, or the Dutch Personality Questionnaire (NPV, Luteijn et al., 1985). / The Zelf-Analyse Vragenlijst (ZAV- a translation of the Speilberger State-Trait Anger Scale, van der Ploeg et al., 1980.). / The Spielberger State-Trait Anxiety Inventory was translated into Dutch and called the Zelf Beoordelings	Significant improvement over time on all measures. / The sexual offender group showed improvement on theleast number of variables as compared to arsonists and violent offenders. / No clinical significance and reliable change indices could be obtainedon the FIOS scales.	Missing data for follow ups (replaced by previous measurement moments-intention to treat). / No control group. / Small sample size.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
						Vragenlijst (ZBV, van der Ploeg et al., 1982). / The Utrechtse Coping List (UCL, Schreurs et al., 1988). / The Scale for Interpersonal Behavior (SIB, Arrindell et al., 1984). / The Forensic Inpatient Observation Scale (FIOS, Timmerman et al., 2001).		
Vallentine et al. (2010) 63% (4)	Examined the usefulness of a groupwork cognitive behavioural psychoeducational intervention for patients in a high-security hospital.	The focus of the intervention is to provide information on three target areas of mental illness; schizophrenia, depression and anxiety, with an emphasis on future relapse prevention. Within each of these modules, symptomology, treatment options and coping skills are covered with the aim of improving understanding and personal	The sample consisted of N = 42 male patients detained in a high-security hospital - majority were diagnosed using the ICD-10 as having schizophrenia, schizotypal and delusional disorders (80%). N =31 patients completed the group. N= 7 dropped out, N = 3 refused and N = 1 left the hospital during the group.	High-security hospital	None, but completers were compared with non-completers.	Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM; Evans et al., 2002). The Self-Concept Questionnaire (SCQ; Robson, 1989). Additional qualitative variables were examined including: number of incidents, prescribed medication,	No group significant changes on CORE-OM or SCQ/ Clinically significant changes seen on all scales of CORE-OM for 3-5 participants/ 2 participants endorsed clinically sig change on SCQ/ Over 50% participants reported improvement in self-esteem/ All participants interviewed said group was 'valuable'.	No control group./ Small sample size./ No longer-term follow up.

Authors & Quality Score	Aims of study	Programme Description	Population	Setting	Comparison group (if applicable)	Outcome measures used	Results	Limitations
		insight.				changes in staff, patient ratio level of care and ongoing engagement with other therapies. A semi-structured interview was also undertaken to evaluate participants' experience of the group.		
Young et al. (2010). *69% (5)*	To evaluate the feasibility and effectiveness of R&R2 with MDOs.	R&R2 is a new edition of R&R cognitive-behavioural programme tailored and adapted to MDOs.	N = 70 male patients aged 20-60 years. N = 58 were allocated to the group condition and N = 12 were 'waiting-list' controls.	High (2 groups; Broadmoor Hospital) and medium security (three groups, Denis Hill Unit; SLAM) (England).	Waiting list controls and completers were compared with non-completers.	Maudsley Violence Questionnaire (Walker, 2005; MVQ)./ Ways of Coping Scale (Lazarus & folkman, 1984; WOCS). / Social Problem-Solving Inventory Revised: Short-version (D'Zurilla et al., 2002; SPSI-R:S). / Disruptive Behaviour and Social Problem Scale (Young et al., 2003; DBSP). This was informant rated.	N = 34 patients started the R&R2 of which N = 22 completed it./ Significant differences found for group completers on attitude measured by MVQ and DBSP./ No significant differences on WOCS or SPSI-R:S./ No significant changes between time 1 and 2 for control group.	Small sample size. / Control group mainly high security, therefore bias and may not be comparable. / No analyses on within and between group interactions./ 3 of 4 measures were self-report./ Staff rating measure were not blind to group allocation.

Results

Due to the heterogeneous nature of the studies included in the review (such as differing group types and lengths of group, the variety of outcome assessments and differences in statistical analysis) the results could not be statistically combined. Therefore, the studies were examined qualitatively in order to reach conclusions.

Descriptive Overview

Of the 18 studies included for review all assessed patients in inpatient hospital settings. Fourteen of the studies were based in the UK and four were based abroad (two in Canada, one in the USA and one in the Netherlands). Of the included studies, five were based in a medium security hospital, eight were based in high security hospitals and three in state hospitals. One study used patients from both medium and high security (Young, Chick & Gudjonsson, 2010). For the one remaining study the level of security was unclear (Stermac, 1986); see Table 3 for a breakdown. The four McMurran et al. papers (McMurran, Charlesworth, Duggan & McCarthy, 2001b; McMurran, Egan, Richardson, & Ahmadi, 1999; McMurran, Fyffe, McCarthy, Duggan & Latham, 2001a; McMurran et al., 2008) were based in the same medium-secure unit in Leicestershire. Four others were also conducted in the same high-security hospital in England (Morris & Moore, 2008; Quayle & Moore, 1998 and Tapp, Fellowes, Wallis, Blud & Moore, 2009; Young et al., 2010); and two were based in the same state hospital in Scotland (Donnelly & Guy, 1998 and Donnelly & Scott, 1999).

Table 3: *Location and Security level of included studies*

Location		**Security Level**		
UK	Other	Medium	High	Other/ Unclear
Beck-Sander et al. (1998)	Hodel & West (2003) – USA	Beck-Sander et al. (1998)	Jones & Hollin (2004)	Donnelly & Guy (1998) – State hosp.
Donnelly & Guy (1998)	Rice (1983) – Canada	McMurran et al. (2008)	Laithwaite et al. (2007)	Donnelly & Scott (1999) – State hosp.
Donnelly & Scott (1999)	Stermac (1986) – Canada	McMurran et al. (2001a)	Morris & Moore (2009)	Hodel & West (2003) – State hosp.
Jones & Hollin (2004)	Timmerman & Emmelkamp (2005) – The Netherlands	McMurran et al. (2001b)	Quayle & Moore (1998)	Stermac (1986) – Secure hosp.
Laithwaite et al. (2007)		McMurran et al. (1999)	Rice (1983)	Young et al. (2010) - Medium and High Secure
McMurran et al. (2008)		Vallentine et al. (2010)	Tapp et al. (2009)	
McMurran et al. (2001a)			Timmerman & Emmelkamp (2005)	
McMurran et al. (2001b)				
McMurran et al. (1999)				
Morris & Moore (2009)				
Quayle & Moore (1998)				
Tapp et al. (2009)				
Vallentine et al. (2010)				

All studies incorporated cognitive-behavioural principles. However, following data extraction, three categories of intervention were evident from the programmes:

1) Problem-solving skills training [seven studies]: Donnelly & Guy, 1998; Donnelly & Scott, 1999; Hodel & West, 2003; McMurran et al., 2001a; McMurran et al., 1999; Tapp et al., 2009; Timmerman & Emmelkamp, 2005 and Young et al., 2010.

2) Anger management training [four studies]: Jones & Hollin, 2004; McMurran et al., 2001b; Quayle & Moore, 1998 (as one group assessed was an anger management group) and Stermac, 1986.

3) Relapse prevention [two studies]: Beck-Sander et al., 1998 and Morris & Moore, 2009.

4) Other [five studies]: Laithwaite, Gumley, Benn, Scott, Downey, Black & McEwen, 2007 (self-esteem); McMurran et al., 2008 (a multi-component programme which included several elements); Quayle & Moore, 1998 (interpersonal relationships group assessed as well as anger group); Rice, 1983 (social skills) Vallentine, Tapp, Dudley, Wilson & Moore, 2010 (psycho-education). See Table 2 for more detail about the structure of these programmes.

Sample sizes of the studies varied dramatically, with a range of N = 4 to N = 83. The majority of studies had sample sizes of less than 16 (see Appendix 5, Table 4).

Programme duration differed widely between programmes ranging between six sessions to six years. A large proportion of programmes lasted 16 sessions or less (8 studies: Donnelly & Guy, 1998; Hodel & West, 2003; Laithwaite et al., 2007; McMurran et al., 1999; McMurran et al., 2001b; Rice, 1983; Stermac, 1986; Young et al., 2010). Two studies did not clearly state the length of programme (McMurran et al., 2001a; Morris & Moore, 2009). All studies reported a closed-group format. The length of sessions varied widely between 45 minutes and 2.5 hours (see Appendix 5, Table 5 for study-specific information).

Twelve studies reported no group members dropped-out of the programme or study (Beck-Sander et al., 1998; Hodel & West, 2003; Jones & Hollin, 2004; Laithwaite et al., 2007; McMurran et al., 2001a; McMurran et al., 2001b; McMurran et al., 1999; Morris & Moore, 2009; Quayle & Moore, 1998; Stermac, 1986 and Tapp et al., 2009. The McMurran et al., (2008) study reported 39 patients were deselected from the programme however none dropped-out of the study. Three studies had 3 or less patients drop-out (Donnelly & Guy, 1998, had 1 drop-out; Donnelly & Scott, 1999, had 3 patients drop-out and Rice, 1983, had 1 drop-out). Vallentine et al. (2010) reported 7 participants dropped-out of the group and in the Young et al. (2010) study the drop-out rate was reported as 12 participants. In the Timmerman & Emmelkamp (2005) study drop-outs were not recorded.

1. What evidence is there for the effectiveness of offending behaviour group treatments with MDOs?

When considering whether change was evident in a positive direction (indicating an effective intervention), the included studies can be split into three broad groups:

- Two studies reported no significant results of their evaluation (Beck-Sander et al., 1998 and Donnelly & Guy, 1998).

- Seven studies reported mixed results (Donnelly & Scott, 1999; Morris & Moore, 2009; Quayle & Moore, 1998, Tapp et al., 2009; Timmerman & Emmelkamp, 2005; Vallentine et al., 2010 and Young et al., 2010).

- Eight studies reported mainly positive results (Hodel & West, 2003; Jones & Hollin, 2004; Laithwaite et al., 2007; McMurran et al., 2008; McMurran et al., 2001a; McMurran et al., 2001b; Rice, 1983 and Stermac, 1986). The McMurran et al. (1999) study was not statistically assessed but the authors report change in a positive direction.

2. What are the long-term treatment outcomes for MDOs attending offending behaviour group programmes?

The majority of studies did not look at long-term outcomes and assessed change only at post-programme; looking at changes in scores on questionnaires and behaviour rating scales pre and post-programme. The McMurran et al. (2001a) study was the only study to include a longer-term follow up and when the patients were assessed at 15 months post-programme the authors report that scores did not significantly improve but that the change was maintained.

3. What differences are there between outcomes for MDOs and comparison groups?

Out of the eighteen included studies, only three had a control group (Beck-Sander et al., 1998; Donnelly & Scott, 1999 and Stermac, 1986); and the Hodel & West (2003) and Young et al. (2010) studies used the participants as their own control group. Three other studies had comparison groups (McMurran et al., 2008; Morris & Moore, 2009, Rice, 1983) and the remaining ten assessed only the treatment group (Donnelly & Guy, 1998; Jones & Hollin, 2004; Laithwaite et al., 2007; McMurran et al., 2001a; McMurran et al., 2001b; McMurran et al., 1999; Quayle & Moore, 1998; Tapp et al., 2009 and Timmerman & Emmelkamp, 2005, Vallentine et al., 2010).

Beck-Sander et al. (1998) reported that there were no significant changes observed in the control group on the pre and post measures, but that the group members showed a significant

increase in their estimations of the likelihood of relapse. Donnelly and Scott (1999) did not find a significant difference between treatment and control groups and showed no evidence that the cognitive skills training had been more successful than those who received standard care. The Stermac (1986) study showed that subjective anger levels decreased significantly after the anger control treatment in comparison to the control group; this group was also found to demonstrate more use of cognitive restructuring strategies and less use of self-denigration strategies in comparison to controls. The third outcome measure, assessing patient's impulsivity, showed no significant differences between the two groups.

Hodel and West (2003) used participants as their own control group in a waiting-list design and saw a positive difference between the scores. Young et al. (2010) utilised a similar design, but did not conduct between group analyses.

McMurran et al. (2008) looked at differences between completers and non-completers and found significant differences between the two groups, with positive change in the completer group. Morris and Moore (2009) looked at completers and drop-outs but found no significant differences between the two groups on outcome measures. Rice (1983) saw significant differences between the social skills group and the client-centred therapy group with the positive changes being seen in the social skills group. Vallentine et al. (2010) compared completers and non-completers based on demographic data but did not compare outcome measures.

4. Are there differences between methods of evaluating offending behaviour programmes?

Outcomes can be grouped into three main categories (see Appendix 5, Table 6): (a) those studies using purely self-report assessments (eight studies); (b) those using a mix of self-report and staff observations (six studies); and (c) three studies that used an alternative mix of assessments. Rice (1983) used a mixture of staff observation assessments and role-plays with no self-report measures. Morris and Moore (2009) used self-report measures as well as information taken from patients records (incident reports); and Vallentine et al. (2010) further incorporated a semi-structured interview. The most common assessments were the Social Problem Solving Inventory (McMurran et al., 2008; McMurran et al., 2001a; McMurran et al., 1999; Tapp et al., 2009; Young et al., 2010) and the State-Trait Inventory (Donnelly & Guy, 1998; Jones & Hollin, 2004; McMurran et al., 2008; McMurran et al., 2001b; McMurran et al., 1999 and Timmerman & Emmelkamp, 2005).

Discussion

The current systematic review aimed to answer the following questions:

1. **What evidence is there for the effectiveness of offending behaviour group treatments with MDOs?**

The effectiveness of offending behaviour groups for the mentally disordered population could not be robustly determined based upon the studies included in this review. Although the majority of studies reported positive results, (Hodel & West, 2003; Jones & Hollin, 2004; Laithwaite et al., 2007; McMurran et al., 2008; McMurran et al., 2001a; McMurran et al., 2001b; McMurran et al. 1999; Rice, 1983; Stermac, 1986), the methodological and statistical limitations mean that caution must be taken with interpretation of these results. This concern, regarding methodological limitations, is also noted by Duncan et al. (2006) in their earlier systematic review. It would appear that the recommendations made by the authors have not as yet had any wide-reaching implications for the design of research assessing the efficacy of offending behaviour group programmes. The population being assessed is varied as well as being relatively small. As such it is unsurprising that there is bias involved in the majority, if not all of, the studies included for review.

2. What are the long-term treatment outcomes for MDOs attending offending behaviour group programmes?

Another common limitation of the included studies was that patient outcomes were not assessed at a long-term follow-up. Therefore, it could not be reliably concluded whether or not offending behaviour programmes for MDOs show any long-term changes, or whether change had been maintained. Only one of the included studies provided data of a long-term follow-up. The McMurran et al. (2001a) paper showed no significant change from the post-programme results but did show that change had been maintained and had not significantly declined.

3. Are there any differences between outcomes for MDOs and comparison groups?

Only three of the included studies utilised a control group (Beck-Sander et al., 1998; Donnelly & Scott, 1999 and Stermac, 1986). Beck-Sander et al. (1998) reported that there were no significant changes observed in the control group on the pre and post measures, but that the group members showed a significant increase in their estimations of the likelihood of relapse. It must be noted that only one outcome measure was used in this study and this was a self-report measure which brings with it obvious limitations. An assumption of self-report measures is that they are the best way to find out about an individual; however self-report measures are inherently subjective and should not be used if a clinician believes a person cannot respond honestly (either through unwillingness or inability, e.g. due to cognitive impairments such as poor executive functioning). There is also the possibility of response bias where a person may not answer the questions accurately; which can be due to a number of factors such as the person wanting to present a favourable image of themself (known as 'faking-good') or exaggerating their difficulties (known as 'faking-bad'). Bias can also occur when a person's answers fall into a pattern or response-set. These are inherent problems with self-report measures and therefore it is important to use other assessments to corroborate findings.

Donnelly and Scott (1999) did not find a significant difference between groups (treatment and control) and showed no evidence that the cognitive skills training had been more successful than those who received standard care. However the sample size was small and the measures

used may not have been reliable measures of change for the constructs the authors were interested in. The Stermac (1986) study showed that subjective anger levels decreased significantly after the anger control treatment in comparison to the control group; this group was also found to demonstrate more use of cognitive restructuring strategies and less use of self-denigration strategies in comparison to controls. However the third outcome measure, assessing patient's impulsivity, showed no significant differences between the two groups.

Hodel and West (2003) used participants as their own control group in a waiting-list design (where there was a baseline phase where men were assigned to standard treatment for 8 weeks prior to attending the programme) and saw a positive difference between the scores. Young et al. (2010) utilised a similar design, however due to the small sample size they did not conduct between group analyses to assess for significance between the 'waiting list' controls and group participants. Four other studies used comparison groups of various types: McMurran et al. (2008) looked at differences between completers and non-completers and found significant differences between the two groups with positive change being seen in the completer group; Morris and Moore (2009) also looked at completers and drop-outs but found no significant differences between the two groups apart from the variable looking at the number of groups completed where the completers showed more attendance; and Rice (1983) saw significant differences between the social skills group and the client-centred therapy group with the positive changes being seen in the target group (social skills); Vallentine et al. (2010) compared completers and non-completers based on demographic data but did not compare them on outcome measures.

Overall the results are variable and this review clearly highlights the need to carefully select assessments in order to ensure that the tools are sensitive and reliable enough to inform the researcher about the constructs they are interested in. Also what is evident is that there is a need for a comparison group when conducting research into efficacy of group programmes.

4. What differences are there between methods of evaluating offending behaviour programmes?

Over fifty different assessments were used in order to measure efficacy and effectiveness in the studies included for review, highlighting the need for a more consistent evaluation approach. The duration of programmes also varied widely, ranging between six sessions and six years meaning that results cannot be combined for analysis. Although the groups were all based upon a cognitive-behavioural model and there were elements of overlap between aspects of the individual programmes (such as training in social skills and problem-solving approaches), it also remains clear that the treatment programmes being offered to MDOs are not directly comparable. Unsurprisingly there were similarities in methodology for those studies conducted by the same authors, whereas the methodology varied a great deal across different authors.

Limitations

An obvious limitation of the current review lies within the differences in the definition of MDOs. Some studies included personality disordered patients within this sample (e.g.

McMurran et al., 2008) whereas others saw this as an exclusion criterion (e.g. Beck-Sander et al., 1998). Also evident were differences in offence types considered suitable for the treatment programmes being assessed.

Large degrees of variation in sample size and duration of programme, quality and methodology mean that there was a lack of comparable data. Due to the heterogeneous nature of the studies they could not be combined in a meta-analysis and as such this limits the extent to which firm conclusions can be drawn. The review aimed to establish what evidence there is for the efficacy of offending behaviour programmes for MDOs; however due to the variation in measures and statistical analysis used this could not be robustly reported. Researchers in the studies used a variety of outcome measures and so it is hard to combine results in any meaningful way. The majority of studies used self-report measures which are inherently subjective and so therefore these results must be interpreted with caution.

Due to the nature of using inclusion and exclusion criteria the review includes only a selection of studies, therefore introducing bias. As such caution must be taken as the results may not be generalisable. The quality assessment score cut-off is low, as this had to be reduced in order to discuss a sufficient number of studies. Another source of bias in any review is that of publication bias as generally studies with positive results are published (compared to those finding unfavourable results). Due to time restraints there was not time to contact authors in the field to ask for unpublished research studies which may have reduced this source of bias. Another area of bias, due to time constraints, is that one study that was identified for quality

assessment was not obtainable within the time-frame of the review. Also, as there was a restriction on language, meaning only English language publications were considered for inclusion, this may have limited the inclusion of potentially relevant studies. Ideally all of the studies would have been quality assessed by a secondary reviewer, however due to time and resource restraints only a sample of the studies were second-scored.

There are similarities between this review and that of Duncan et al. (2006) in that both reviews highlight a need for more rigorous and consistent methodologies; but something that has been clear following this systematic review is that the clarity of reporting is also an area that requires attention.

Recommendations for Future Research

5. The final objective of the current review is to make suggestions for future design of offending behaviour programme evaluations.

This review highlights the need for more high quality research to be conducted in this area. The majority of studies do not use a control group and do not include longer-term follow up measures (to assess whether the interventions produce any long-term changes). Future studies should ensure that a variety of outcome measures are used, including a mix of self-report, observational and records data as this will increase the likelihood that outcome measures are more reliable. Assessment tools also need to be standardised and validated for the population

being assessed and this needs to be clearly reported; which was not the case for some studies included in the current review.

Conclusions and Implications for Practice

The studies included in the study suggest that there is some evidence for the effectiveness of offending behaviour programmes targeted for the mentally disordered offender population. However there needs to be a continuation of high-quality research to examine this and to assess whether any change is maintained in the long-term. Of course caution must always be used when interpreting the results from such a heterogeneous population, however, the number of confounding variables can be significantly reduced if a rigorous methodology is used. It is clear that more consideration needs to be taken when choosing outcome assessments in order that data can be combined in a meaningful way. This also requires that results are reported clearly and that authors state how the data was analysed. Also studies should move away from relying solely on self-report measures as this introduces a high degree of bias. Control groups should be selected in order for a comparison to be made between those in the intervention group and similar patients that have not undertaken the target intervention as this is likely to be greatly informative regarding the impact of the intervention.

A matter arising from this review as an area of improvement is that of the reporting of methodology and findings. In a large number of cases the authors did not state clearly the

duration of the programme or the number of drop-outs as well as being unclear in the statistical tests used for the analysis of the results.

The current chapter explored the evidence base for the effectiveness for cognitive-behavioural offending behaviour group treatments with MDOs. It is suggested that there is evidence for the effectiveness of cognitive-behavioural interventions with MDOs but that more rigorous and high quality research needs to be conducted in this area in order for more robust conclusions to be made. Research found that there are important areas for development such as the inclusion of a control group for comparison and the careful selection of assessment measures to more thoroughly examine programme efficacy for this population. These findings provide a base on which to develop comprehensive methodologies for investigating efficacy of treatment with MDOs. The next chapter explores the psychometric properties of a self-report measure used widely in the evaluation of group work programmes. The reliability and validity of the assessment tool is discussed and the limitations of using this tool in practical settings and within research is discussed. There is particular emphasis on the utility of this tool for research with MDOs.

Chapter 3

Critique of the Social Problem-Solving Inventory – Revised.

Introduction

Psychometric tests are considered a 'measurement of the mind' (Breakwell, Hammond & Fife-Schaw, 2000). A contentious issue is whether or not it is possible to measure internal aspects of a person; such as their attitudes, personality traits and so forth. A person's psychological functioning cannot yet be directly measured therefore what is produced by such measures is at best an estimate. Therefore, as with any psychometric measure, there is always a degree of measurement error. Despite this psychometric tests have been and continue to be used in psychological research and practice; as psychometric assessments also allow for a large amount of data to be collected and compared.

The R&R2 programme (described more fully in Chapter 4) was developed with a primary aim of reducing violent attitudes and behaviour using cognitive skills training incorporating social problem-solving (Young et al, 2010) as it has been suggested that an improvement in problem-solving impacts positively upon recidivism (McMurran et al., 2001c). The SPSI measure was therefore selected for this critique as it is the main measure for assessing problem-solving skills. The measure has been widely used in research that aims to address and rectify maladaptive patterns of functioning in forensic patients (e.g. McMurran et al., 1999,

2001a, 2008; Tapp et al, 2008; and Young et al, 2010) and therefore it is important to critique its utility for use with this population.

This critique examines a psychometric assessment constructed by D'Zurilla et al. (2002), The Social Problem Solving Inventory – Revised (SPSI-R). This tool measures problem-solving ability and evaluates a person's style of problem-solving and ability to solve problems that occur in everyday life. The assessment will be examined in terms of its scientific properties (focussing on its reliability and validity), its use in research and practice and in particular its applicability to forensic mental-health settings.

The Social Problem-Solving Inventory Revised

The Social Problem-Solving Inventory- Revised (SPSI-R) is a self-report assessment tool that measures a person's ability to solve problems that occur in everyday life. The SPSI-R was developed following research investigating the original Social Problem-Solving Inventory (SPSI; D'Zurilla & Nezu, 1990). There are two forms of the tool: the SPSI-R: L which has 52 items and the SPSI-R:S which is 25 items long; both of which will be discussed in this critique.

Social problem-solving is a term that has been described by the authors as a "self-directed cognitive-behavioural process by which a person attempts to identify or discover effective or adaptive ways of coping with problematic situations encountered in the course of everyday

living" (D'Zurilla et al., 2002 p.xi). The term 'social' is used to stress that the tool focuses on assessing problem-solving that occurs within the natural social environment. Therefore the tool looks at a person's ability to deal with inter and intrapersonal difficulties.

Purpose of Creating the Tool

In the development of this tool, the authors aim was to produce a measure linked to the model of social problem solving that was first introduced by D'Zurilla and Goldfried (1971). The authors stated that they wanted to "isolate, study and compare specific strengths and deficits in problem-solving attitudes and skills among different individuals" (D'Zurilla et al., 2002, p.47). Problem-solving is defined as the ability to find solutions to a problem situation (inter or intra-personal). The assumption is that problem-solving skills are consistent across situations, although the ability to carry out a solution may differ. Also problem-solving abilities are considered to be consistent across cultures (Heppner, Witty & Dixon, 2004; Siu & Shek, 2005) meaning that a universal tool could be created. Better understanding about how individuals resolve stressful problems is therefore believed to be helpful for a variety of settings including clinical and research settings.

Overview of the Tool

This questionnaire requires that the user have good reading ability and understanding of the English language, the user must also be aged over 13 years. The SPSI-R is a multi-

dimensional tool and, using Likert-type items, it assesses two problem-solving dimensions (positive and negative) and three problem-solving styles (rational, impulsive/ careless and avoidant). These elements can be split into constructive and dysfunctional dimensions and together provide a global problem-solving score (D'Zurilla, Nezu & Maydeau-Olivares, 2004). These scales and subscales are outlined in Figure 3 (below) and explored more in the theoretical model section.

Each item in the inventory is a statement about the self that reflects either a positive or negative response to a problematic situation. The test is designed so that half of the items are positive and half negative; these items are randomly distributed in the test. Each item asks respondents to answer on a 5-point Likert scale. This ranges from 'not at all true of me' to 'extremely true of me'.

To accompany the self-report questionnaire there is a comprehensive technical manual. This provides an introduction to the tool, information about the conceptual framework, administration and scoring information and a section on interpreting the scores. Further chapters explore the development or the original SPSI and the SPSI-R, the normative samples and psychometric properties, translations of the tool and the author's summary and future directions. This provides the researcher or clinician with information to aid them in administering the tool. The manual also discusses limitations that would need to be considered in the use and interpretation of the assessment.

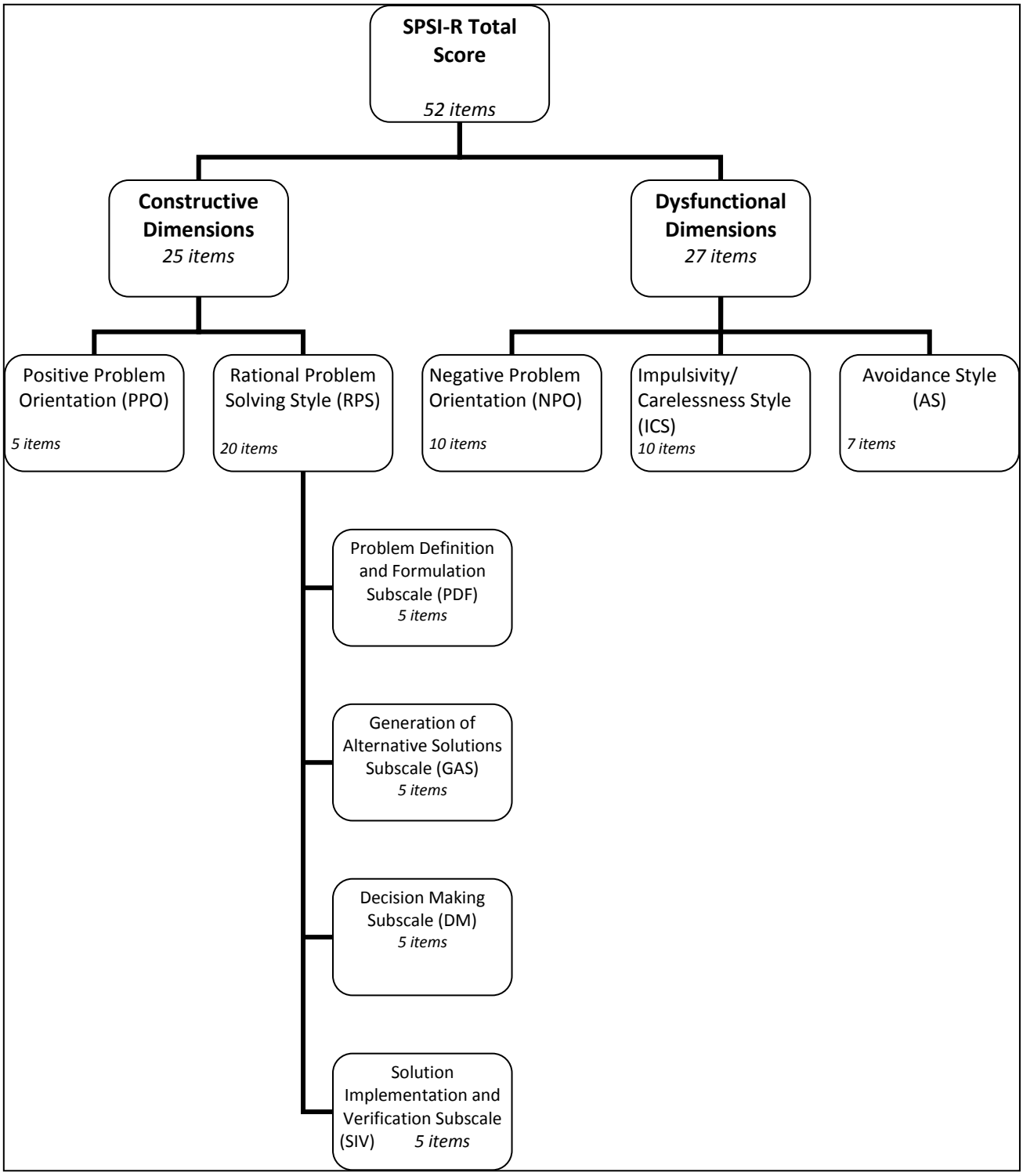

Figure 3: *Flow-chart representation of the SPSI-R multi-dimensional model.*

Development and Research Base

The SPSI-R was developed from exploratory and confirmatory factor analyses carried out on the original SPSI. The original assessment contained 70 items and the SPSI-R contains 52 items. In the technical manual (D'Zurilla et al., 2002), the authors state that in the original assessment nearly 300 different items were produced and that these were reduced to 138 items. However, what is not clear from the manual is how this was achieved and what the screening process involved. Ten clinical psychology graduates were then asked to rate how well they thought the each of the 138 items represented the subscale to which they were assigned on a 7-point Likert-type scale; from '1= item does not address this subscale at all' to '7 = item addresses this subscale very much'. A mean rating of 6 was required in order for an item to be 'kept' and all 138 items met this criteria. A possible limitation of this method is whether the experience of the raters and the number of them was adequate for this process.

After these initial screens, 260 undergraduates were then administered the test. Correlation coefficients were calculated and following this 10 items were selected for each subscale. The items that were selected had the highest association with their subscale and scale scores (with correlations ranging from .47 to .80) and in comparison a relatively low association with the other subscales and scale scores (correlations ranging from .41 to .79) (Maydeu-Olivares & D'Zurilla, 1996). This left 70 items. However, it has been suggested that 0.70 should be taken as the minimum level for a correlation to be considered meaningful, as otherwise the standard error of the test makes interpretation difficult (Field, 2005). It is clear from the authors

description that a number of items did not meet this criteria which may impact upon the validity of the SPSI-R.

The original SPSI had relatively high test-retest reliability coefficients of .83 for the Problem Orientation Scale (POS) and .88 in the Problem-Solving Skills Scale (PSSS) (D'Zurilla & Nezu, 1990). However the original development did not involve any factor analyses in order to assess the construct validity of the tool. The investigation by Maydeu-Olivares and D'Zurilla (1996), with a 'normal' adult sample, concluded that a five-dimensional model was more appropriate than the two-factor model. Therefore, based on the revisions arising from this and a study by Sadowski, Moore and Kelley (1994), carried out with an adolescent sample, the SPSI was revised and the SPSI-R was developed. However, a criticism could be levied at the samples used for the factor analyses as these studies were carried out on university samples. These studies consisted of largely Caucasian samples with a mean age under 20 years. Therefore it is not clear whether the results from these samples are generalisable to different clinical populations and more research would need to be carried out to determine if this is the case.

In the development of the SPSI-R, the number of items were reduced in order to improve administration time and to bring the number of items in each scale more in line with each other; those items with higher loadings to the factors were retained. This left 52-items organised into five-scales. From this, the five items that best represented each dimension

were identified using a criterion of sampling representativeness. The 25 items were then included in the SPSI-R short-version.

Theoretical Model

The authors theorise that problem-solving outcomes are determined by two processes: problem orientation (positive and negative) and problem-solving style (rational, impulsive/ careless and avoidant) (D'Zurilla & Nezu, 1990). Problem orientation refers to a motivational process involving stable schemas which reflect a person's thoughts about their own abilities. Problem-solving style encompasses cognitive and behavioural activities that aim to find a solution to particular problems (D'Zurilla & Nezu, 1982). A major assumption of the model is that problem-solving is a multidimensional construct, with related components (D'Zurilla et al., 2004). The theoretical assumptions of each scale are summarised below:

Problem-solving/ Constructive Dimensions:

1) Positive Problem Orientation (PPO): this encompasses a person's tendency to appraise problems as challenges and not avoid them; be optimistic about the ability for problems to be solved and for them to be effective in this and to believe that persistence will be necessary to solve problems.

2) Rational Problem Solving (RPS): rational problem solvers are believed to be more effective and adaptable in the techniques used to problem solve. The scale is subdivided into 4 subscales that explore aspects of this constructive problem-solving style.

Dysfunctional Dimensions:

1) Negative Problem Orientation (NPO): people with this style see problems as threats; they believe they will not be successful in problem-solving and they are also more likely to have a low tolerance to frustration when confronted with problems.

2) Impulsivity/ Carelessness Style (ICS): person's with this style attempt to use problem-solving strategies, however they do this in a hurried or impulsive way and do not take time to identify a number of alternative solutions or evaluate these carefully.

3) Avoidance Style (AS): this style reflects a tendency to avoid problems as much as possible and wait for problems to resolve themselves or be dependent on others to solve problems for them.

In this model, the constructive dimensions are presumed to be positively associated with psychological well-being and the dysfunctional dimensions with distress. Therefore, it is suggested that interventions which aim to increase positive problem-solving ability would

lower levels of distress. The relationship between deficits in problem-solving and distress have been demonstrated in research findings (Rivera et al, 2007) and problem-solving is also believed to play an important role in mediating the impact of stress on a person's functioning (D'Zurilla et al., 2002).

According to this theoretical model, a 'good problem-solver' (scoring higher on PPO and RPS scales) is believed to be more positive, with good interpersonal skills. On the other hand, 'poor' problem-solvers (scoring higher on NPO, ICS and AS scales) are likely to suffer more psychological distress and function less well in daily living with problems in interpersonal relationships, as well as displaying risky or self-defeating behaviours and other maladaptive patterns.

Characteristics of the Assessment

Self-Report

The SPSI-R assessment is a self-report assessment which respondents complete themselves. The assumption of self-report measures is that the best way to find out about an individual is to pose the questions to them directly. However, self-report measures should not be used if a clinician believes a person cannot, through inability or unwillingness, respond honestly. There are a number of self-report measures which aim to measure different constructs, e.g. a

person's personality traits or their attitudes. One of the main reasons for their success is that they are easy to administer.

However, self-report measures have limitations, the main problem being response bias. A person may not answer the questions accurately and this can be due to a number of factors. For example a person may want to present a favourable image of themself (known as 'faking-good') or they may want to exaggerate difficulties (known as 'faking-bad'). Also bias can occur when a person's answers fall into a pattern, called a response-set. This could impact upon research and our understanding of social problem-solving as a construct; as the response bias may affect or account for significant relationships or results. This is an inherent problem with self-report measures and therefore it is important to use other assessments to corroborate findings.

Process versus Outcome Measures

The SPSI-R is a 'process' measure. This means that it aims to assess the process of finding solutions to problems rather than being an 'outcome' measure (D'Zurilla et al., 2004). Outcome measures aim to establish how successful problem-solving is; in other words, outcome measures will establish how successful the solution is. However there does not yet appear to be a strong enough empirical base for these outcome measures to be conceptualised into a valid measure. For example, it is difficult to judge the effectiveness of a solution and to determine which problems are universal. It would appear that there is a need for more research

to be carried out in this area and in the future process and outcome measures may be combined to give a more holistic picture of problem-solving ability.

Reliability

Internal Reliability

The authors (D'Zurilla et al., 2004) calculated alpha coefficients of the SPSI-R for four normative samples: adolescents; young adults; middle-aged adults and elderly adults (see Table 7). All samples showed moderate to high reliability (ranging from 0.60 to 0.96).

Table 7: *Internal Reliability Estimates for SPSI-R:L, alpha coefficients, (reproduced from technical manual; D'Zurilla et al., 2002).*

Scale		Adolescents N= 708	Young Adults N= 1,053	Middle-aged Adults N= 100	Elderly Adults N= 100
PPO		.60	.76	.79	.69
NPO		.84	.91	.89	.92
RPS		.87	.92	.95	.93
	PDF	N/A	.81	.87	.79
	GAS	N/A	.77	.84	.73
	DM	N/A	.75	.81	.79
	SIV	N/A	.76	.84	.81
ICS		.74	.83	.82	.81
AS		.75	.88	.92	.81
SPSI-R		.85	.95	.96	.93

Key: PPO = Positive Problem Orientation; NPO = Negative Problem Orientation; RPS = Rational Problem Solving; ICS = Impulsivity/ Carelessness Style; AS = Avoidance Style; PDF = Problem Definition and

Formulation; GAS = Generation of Alternative Solutions; DM = Decision Making; SIV = Solution Implementation and Verification; SPSI-R = Overall score; N/A = Not available.

A study by Sadowski et al. (1994) showed the SPSI-R to be internally consistent for an adolescent sample. They demonstrated that a high school sample had a coefficient alpha of 0.85 and a Spearman-Brown split-half reliability index of 0.81. Their adolescent psychiatric sample also showed high reliability with a coefficient alpha of 0.90 and split-half reliability index of 0.93.

Test-Retest Reliability

It is also important to test whether results can be replicated and are consistent over time. A difficulty here is determining the test-interval, if it is too soon a person may remember their answers which may bias their responses, if the interval is too long the responses may be distorted. Using this analysis as a measure of reliability also assumes that the characteristic being measured is stable over time. However this may not always be the case, for example when investigating mood states. Therefore, this measure of reliability could be unhelpful in cases similar to this. The theoretical model underpinning the SPSI-R is that problem-solving ability is based upon enduring schemas and therefore a person's problem solving ability should be relatively stable. Of course problem-solving ability is believed to be changeable, hence the number of problem-solving interventions, and therefore this may affect outcomes.

Table 8: *Test-retest Estimates for SPSI-R:L, Pearsons r, (reproduced from technical manual; D'Zurilla et al., 2002).*

Scale	Young Adults N= 138	Student Nurses N= 221
PPO	.72	.68
NPO	.88	.91
RPS	.82	.85
PDF	.75	N/A
GAS	.74	N/A
DM	.73	N/A
SIV	.74	N/A
ICS	.78	.79
AS	.78	.85
SPSI-R	.87	N/A

Key: PPO = Positive Problem Orientation; NPO = Negative Problem Orientation; RPS = Rational Problem Solving; ICS = Impulsivity/ Carelessness Style; AS = Avoidance Style; PDF = Problem Definition and Formulation; GAS = Generation of Alternative Solutions; DM = Decision Making; SIV = Solution Implementation and Verification; SPSI-R = Overall score; N/A = Not available.

Test-retest data was available for the subsample of young adults (N= 138), (see Table 8). This was carried out over a three-week period and the coefficient alpha's range from 0.72 (PPO) to 0.88 (NPO). An additional sample was carried out over 6-weeks with a sample of student nurses (N= 221), (see Table 8). These estimates are adequate (0.68; PPO) to high (0.91; NPO) and also suggest that there are minimal practice effects, (the possibility that having previously completed the assessment may influence respondent's scores).

Test-retest reliability for the SPSI-R:S is also promising however there are only preliminary findings available from a sample of young adults. A limitation of this analysis is that the SPSI-R:S was not administered to the sample. Instead the researchers used their young adult sample (who had completed the SPSI-R:L) and only included the items that were present in the short-

version in their analyses. Therefore, analyses would need to be carried out on administrations of the short-version in order to establish support for these findings.

Table 9: *Test-retest Estimates for SPSI-R:S, Pearsons r, (reproduced from technical manual; D'Zurilla et al., 2002).*

Scale	Young Adults N= 138
PPO	.72
NPO	.79
RPS	.74
ICS	.72
AS	.73
SPSI-R	.84

Key: PPO = Positive Problem Orientation; NPO = Negative Problem Orientation; RPS = Rational Problem Solving; ICS = Impulsivity/ Carelessness Style; AS = Avoidance Style; PDF = Problem Definition and Formulation; GAS = Generation of Alternative Solutions; DM = Decision Making; SIV = Solution Implementation and Verification; SPSI-R = Overall score.

Validity

Although it would appear that the SPSI-R is fairly reliable this does not mean that it measures what it is intending to measure and is a valid measure. The validity of the test must also be examined and this requires that the characteristics must be clearly operationally defined and in order for this to be possible the construct under consideration must be fully understood. Something to highlight here is that the five-factor structure of the SPSI-R was derived from a

sample of students. Therefore, in the future, it would be important to assess whether or not this is applicable to other population samples, such as adult psychiatric or forensic patients.

1. Content Validity

It is important that the items in the measure are directly relevant to the construct being examined as this will affect how accurate and relevant the outcomes are. If these are not operationalised effectively the validity of the measure will be compromised. This tool is derived from a theoretical model; however this does not mean that the measure achieves face validity.

Face Validity.

If the person completing the self-assessment tool does not understand the question or the question is ambiguous their answers may not be accurate. Also the test-taker may become annoyed or frustrated if they feel that the questions being asked are irrelevant to the purpose for which they are undertaking it. However, this can also be a drawback as if the questions are obvious to the responder they may be more biased in their answers. This is a subjective assessment of validity as psychological concepts cannot yet be directly measured. However, the items appear to operationalise the author's theoretical construct and therefore the measure can be considered to meet face validity.

2. Criterion Validity

Concurrent Validity.

Concurrent validity refers to the relationship between the test and other associated criteria. In order to assess this, the SPSI-R was compared to other tests that purport to measure the same construct. The authors compared data with the Problem-Solving Inventory (PSI; Heppner, 1988; Heppner & Peterson, 1982). The PSI is a social problem-solving measure and assesses a person's perception of their attitudes and behaviours. The correlations ranged from low (-0.33, between Personal Control on the PSI instrument and RPS on the SPSI-R) to moderately high (0.69, between total PSI and ICS on the SPSI-R), with all being significant. This suggests that the constructs of the two psychometrics overlaps somewhat, but also that neither is likely to be redundant as the correlations are not high enough.

Predictive Validity.

This relates to whether to not the test predicts later behaviour. The constructors of this test used 'postdictive' validation, meaning that they compared test scores of people with the characteristic being assessed (e.g. poor problem-solving) to those without the characteristic (i.e. good problem-solvers). The problem orientation scales have been shown to be predictive of depressive behaviour, anxiety, psychological well-being, sexual aggression, negative affect and health complaints (D'Zurilla et al., 2002; Shewchuk, Johnson & Elliott, 2000) as well as

suicide potential (Chang, 1998). Poor social problem solving ability has also been found to be a predictor of aggression in college students (D'Zurilla, Chang & Sanna, 2003). All five-scales were found to be related to hostility and the NPO scale was found to be a partial mediator of the relationship between hostility and anger; although a causal statement cannot be made as correlational analyses were used.

Correlations between measures of depression, anxiety, hopelessness, suicidality and life satisfaction and the SPSI-R:S are also shown to be similar to those of the SPSI-R:L, suggesting that the predictive validity of the short-version is comparable to that of the long-version.

3. Construct Validity

When assessing construct validity examiners are looking at whether the measure works well as a construct and test aspects that are hypothesised about the construct. The hypotheses underpinning the test structure are examined. The construction of the SPSI-R and the selection of the test items is based upon a theory of social problem-solving. As a part of this, definitions of problem-solving and problem are made clear by the authors. The test asks participants to respond to statements which tap their process of problem-solving which is believed to indicate their problem-solving ability.

Some may argue that it would be better to measure the outcomes of problem solving rather than the process. However, a problem with this may be in deciding whether or not defining what a problem is is an idiosyncratic process. For example, what may be perceived as a problem for one person may well not be for another person and therefore an accurate measurement cannot be made.

D'Zurilla and Chang (1995) examined the relationship between social problem-solving and coping. They found, by examining item content of the SPSI-R scales and the Coping Strategies Inventory (CSI) scales, that 19 of the 29 significant correlations showed no item content overlap, four involved scales with one similar item and nine involved scales with more than one similar item. This suggests some overlap in constructs, but the correlations were not highly significant, which the authors suggest may represent causal relations rather than overlapping constructs.

Something that has not been explored thoroughly is whether or not findings could happen by chance, as there are a number of scales and some with few items; therefore it is feasible that significant relationships could be found by chance.

Structural validity.

Confirmatory factor-analyses were carried out by fitting a five-factor independent cluster solution using the samples of college students and adolescents (see 'Development and

Research Base' section). Goodness of fit statistics were used to confirm the model fits the data for the SPSI-R:L. In addition analyses were conducted for the SPSI-R:S which also suggested a five-factor model fits the data.

Normative Samples

In order for a tool to be useful it needs to have a 'reference' or 'normative' population. This allows practitioners and researchers to interpret the meaning of the individual person's score. The norms tell us what range of scores we should expect from the population that is being examined. If a test is not normed then interpretation at an individual or group level is meaningless.

The authors collected data from a number of different groups which they titled 'normal' and 'distressed' samples. The 'normal samples' included data from: 708 adolescents; 1,020 young adults; 100 middle-aged adult community residents and 100 elderly community residents. The 'distressed samples' included: 100 adult psychiatric inpatients; 63 adolescent psychiatric patients; 156 medical patients with cancer; 43 depressed adult outpatients and 61 suicidal inpatient adults.

There are limitations that are highlighted by the authors in the age ranges investigated for the 'normal' samples. Both the adolescent and the young adult samples included person's aged 17 years and there were no individuals aged 56-59 included. The authors suggest that clinical

judgement is used in these cases, 56-59 year olds should be scored according to the middle-aged sample and for 17 year olds the adolescent norms should be used. These suggestions are not based upon empirical findings. The authors of the SPSI-R also developed t-scores to be used by those interpreting respondents' scores and because differences were found between age groups these t-scores take these differences into account, making the interpretation more reliable.

Use in Assessment and Research

A number of offending-behaviour programmes identify problem-solving and social-skills training as a focus for intervention and the efficacy of this as a clinical intervention has been demonstrated (Ross, Fabiano & Ross, 1986). Mentally disordered offenders (MDOs) display similar deficits to non-MDOs particularly in social skills and problem-solving (Müller-Isberner & Hodgins, 2000; McMurran et al., 2001c). Therefore offending behaviour programmes have been developed, with a cognitive skills focus, that aim to replace offending behaviour with pro-social behaviours. As discussed in Chapter 1, forensic psychiatric patients tend to exhibit poor social problem solving skills (D'Zurilla, Nezu & Maydeu-Olivares; 2002). McMurran et al. (2001c) state that poor social problem-solving ability may lead to criminal behaviours and suggest a combination of skills training and cognitive reappraisal as the most effective forms of intervention to address poor problem-solving. An increase in problem-solving ability is believed to reduce the likelihood of recidivism by rectifying maladaptive patterns of functioning (Müller-Isberner & Hodgins, 2000). As poor problem-

solving ability is thought to be a criminogenic need, this highlights the necessity for a reliable and valid measurement tool to assess change in problem-solving ability in order to empirically establish the efficacy of training and therapy programmes.

This tool offers a way to evaluate the efficacy of research or investigations that aim to change maladaptive patterns of functioning. The SPSI-R can also be used to identify those people with deficits who could benefit from interventions and determine how and when to best apply therapies or interventions. For example, a study by Shewchuk et al. (2000) indicates that negative problem orientation (NPO) is associated with poor problem-solving performance and suggest that this could be used practically to predict performance in the workplace. However, researchers and clinicians must be aware of bias in responding. For example socially desirable responding or careless responding can impact upon the reliability and validity of the test, as can a participant's ability to understand the test items.

Elliott and Hurst (2008) comment that we do not yet understand the psychological mechanisms of how problem-solving may influence experiences and a person's interpretation of events and their well-being. Not understanding this fully makes interpretation of the research data difficult. Also much of the research has been carried out on student samples and some in laboratory conditions; therefore decisive conclusions cannot yet be made.

Use of the Tool in Adult Mental Health Settings

The normative sample for adult psychiatric patients was taken from 100 general admission patients from a private psychiatric hospital in America (D'Zurilla et al., 2004). Of this number 30 were men and 70 women; with a mean age of 37.1. The most common Axis I disorder was major depression (53%) and Axis II was dependent personality disorder (40%). See Table 11 for the means and standard deviations of this sample. Compared to the 'normal' samples (see Table 10) these respondents score in a more dysfunctional way and therefore this needs to be considered in the interpretation of results. An obvious drawback is the limited sample size.

Table 10: *Means and Standard Deviations of SPSI-R: L Scales (reproduced from technical manual; D'Zurilla et al., 2002).*

	Adolescents Age 12-17 N= 708		Young Adults Age 17-39 N= 1, 020		Middle-Aged Adults Age 40-55 N= 100		Elderly Adults Age 60-80 N= 100	
Scale	Mean	SD	Mean	SD	Mean	SD	Mean	SD
PPO	11.47	3.81	11.89	3.90	13.53	3.85	11.64	3.62
NPO	17.68	8.43	15.60	9.05	9.46	7.02	12.06	8.78
RPS	41.45	13.00	43.78	13.72	47.90	15.07	41.82	13.98
ICS	16.81	6.44	13.78	7.01	9.11	6.00	11.43	6.34
AS	12.02	5.73	9.94	6.57	6.30	5.87	8.71	5.17
SPSI-R	11.20	2.53	11.19	3.02	14.35	3.00	12.86	2.66

Key: PPO = Positive Problem Orientation; NPO = Negative Problem Orientation; RPS = Rational Problem Solving; ICS = Impulsivity/ Carelessness Style; AS = Avoidance Style;; SPSI-R = Overall score; SD= Standard Deviation.

McMurran et al. (1999) carried out the SPSI-R with a forensic psychiatric sample and t-tests confirmed that on the five scales compared (PPO; NPO; RPS; ICS and AS) there were no significant differences between the psychiatric and forensic psychiatric samples. Although both samples score more dysfunctionally than 'normal samples' (D'Zurilla & Nezu, 2000).

Table 11: *Psychiatric Sample: Means and Standard Deviations of SPSI-R.*

	Psychiatric N= 100 *Reproduced from technical manual; D'Zurilla et al., (2002).*		Forensic Psychiatric Patients N= 52 *Reproduced from McMurran et al. (1999).*	
Scale	Mean	SD	Mean	SD
PPO	9.50	5.01	10.85	4.66
NPO	21.42	10.84	20.77	9.05
RPS	34.55	16.23	37.87	15.33
PDF	N/A	N/A	9.98	4.12
GAS	N/A	N/A	10.19	4.50
DM	N/A	N/A	8.60	4.48
SIV	N/A	N/A	9.38	4.01
ICS	16.60	8.48	18.52	9.52
AS	11.22	7.67	12.27	7.00
SPSI-R	10.22	3.70	10.35	3.46

Key: PPO = Positive Problem Orientation; NPO = Negative Problem Orientation; RPS = Rational Problem Solving; ICS = Impulsivity/ Carelessness Style; AS = Avoidance Style; PDF = Problem Definition and Formulation; GAS = Generation of Alternative Solutions; DM = Decision Making; SIV = Solution Implementation and Verification; SPSI-R = Overall score; N/A = Not available; SD = Standard Deviation.

One difficulty with using this assessment with a psychiatric population is that a requirement of the assessment is the individual is not severely impaired or disorientated at the time of

completion. This requires clinicians to make a judgement about this prior to carrying out the assessment. Also the SPSI-R could be seen as time-consuming and for patients residing in clinical settings it may be too lengthy; particularly if it is forming part of a battery of psychometric assessments. However, here is where the shorter version may have utility; and indeed the SPSI-R: S has been used successfully in a number of studies (e.g. Young et al., 2010).

A future area for research would be to carry out analyses on a larger sample size. Also the sentence structures are fairly complex and therefore persons with below average IQ or with poor executive functioning may struggle with completing this as a self-report measure. This may account for some of the variability in results in research findings.

Conclusions

The Social Problem-Solving Inventory-Revised (SPSI-R) is a self-report assessment tool that measures a person's ability to solve problems that occur in everyday life. Validation studies show that the measure is valid and reliable for use in research and clinical assessment. The tool has been shown to have high levels of internal consistency (ranging from 0.69 to 0.95) and test-retest reliability (ranging from 0.68 to 0.91). The reliability and validity of the assessment therefore appear to meet Kline's (1986) characteristics of a 'good test'.

This tool is currently the only assessment investigating social problem-solving that is underpinned by a theoretical model. The comprehensive technical manual which accompanies the assessment allows for standardised administration providing a more consistent approach and the results of the SPSI-R appear to be meaningful and useful in research.

As a person's psychological functioning cannot yet be directly measured and there is always measurement error, it would be unwise to use this assessment, or indeed any other psychometric measure, as the sole means of understanding a construct; in this case social problem-solving. Therefore, the tool should not be used as a diagnostic measure. In addition, the clinician or researcher must remain aware of factors that may bias responding when interpreting the scores. Although, from the research conducted to date, the assessment does appear to be relatively robust. The five-dimensions arose from factor-analytic studies of a theory-driven assessment, the SPSI, and the SPSI-R has good reliability and validity.

The SPSI-R is lacking cross-validation across a number of larger population sample sizes. Perhaps a direction for future research is in combining observation, self-report and informant reports in order to overcome the fact that self-report may not be an accurate reflection of a person's problem solving ability.

The current chapter explored the SPSI-R and examined the scientific properties (with a focus on reliability and validity), its utility in research and practice and in particular its applicability to forensic mental-health settings. Studies have shown the measure to be valid and reliable for

use in research and clinical assessment. The tool has been shown to have high levels of internal consistency and test-retest reliability and is the only assessment investigating social problem-solving underpinned by a theoretical model. The lack of cross-validation suggests more research is needed and a suggestion is made that a combination of observation, self-report and informant reports are used to overcome the difficulties inherent in the use of self-report measures. The subsequent chapter aims to evaluate the effectiveness of a newly developed programme designed specifically for MDOs; using the SPSI-R:S as an outcome measure to investigate changes in problem-solving ability. The study compares evidence from a multisite sample using self-report, informant rated and records information. The research attempts to explore the utility and efficacy of this new group work programme for an MDO population.

Chapter 4

A Quasi-Experimental Evaluation of the Reasoning and Rehabilitation 2 (R&R2) Programme for Mentally Disordered Offenders: A Trial of a Pro-Social Competence Programme

Abstract

Purpose: This study aims to evaluate the effectiveness of a newly developed programme for mentally disordered offenders in secure settings, the Reasoning and Rehabilitation 2 programme. Specifically the following research questions were investigated: (1) how successful is the R&R2 in terms of retention of participants? (2) are there differences between participants who completed the group and those who dropped out from the programme? (3) is the R&R2 programme effective by evaluating change in the key target areas of the programme on the basis of psychometric assessments administered pre- and post- group compared to those in the control condition?

Method: The sample (N = 121) was drawn from eight secure units; five of which were medium secure units and three were low secure units; all participants were male. The study adopts a repeated measures design where group treatment participants (N=67) and control participants, who did not receive the treatment (N=54), were asked to complete self-report measures at time one (pre-group or treatment condition) and time two (post-group for treatment condition). Informant measures were also completed by a staff member at time one and time two.

Results: (1) There was a very high group completion rate (80.6%). (2) A significant difference was found at baseline when comparing completers to non-completers on demographic information, where significantly more non-completers had been convicted of a violent offence. Differences were also found at Time 1 on the negative problem solving score of the Social Problem Solving Scale (SPSI:R-S); with completers showing more dysfunctional scores. (3) Decreases were seen in antisocial attitudes and behaviours for the treatment group (on both self-report and informant measures). Positive differences were also seen in rational problem solving for those in the group condition. Counter-intuitively decreases were seen on the Cognitive scale of the PAQ. No other significant differences were found.

Conclusions: Overall, the current study suggests that the R&R2 can be delivered and that it may be successful as part of a multifaceted intervention programme. The low drop-out rate and responsivity of the programme has important implications in assisting policy makers and practitioners to make decisions about management and treatment of mentally disordered offenders. The R&R2 is effective in reducing antisocial attitudes and beliefs and as it is a shorter programme than the original R&R it may be more cost-effective in terms of staff time and other resources. Suggestions are also made for future research.

Introduction

Mental Illness and Offending Behaviour

The number of people residing in secure hospitals and prisons is increasing (Ministry of Justice, *Statistics Bulletin*, 2008). Rutherford and Duggan (2007) found the number of people detained in secure hospitals increased by around 52% between 1997 and 2007 and reconviction rates suggest that within 5 years of release 15% of mentally disordered offenders will re-offend; 3% of whom will commit serious violent offences (*Home Office Statistical Bulletin*, 2005). As the prison and hospital populations are growing and the risk re-offending remains, there is an increased demand for evidence-based treatments and rehabilitation strategies to alleviate this pressure. This is also important fiscally considering the Ministry of Justice announced a pilot of 'payment by results' in the Justice system in March 2011. Kenneth Clarke (Lord Chancellor and Secretary of State for Justice) stated "We're going to pay what works and what works should therefore grow and what doesn't work will vanish...Payment by results will mean we will only pay providers if they reduce reoffending" (*Ministry of Justice*, 2011).

Individuals with a mental health disorder are considered to be much more likely to commit a violent offence than members of the general population (Kunz, Yates, Czobor, Rabinowitz, Lindenmayer & Volavka, 2004; Swanson, Swartz, von Dorn, Elbogen, Wagner et al., 2006). Furthermore, Bloom and Wilson (2000) suggest that physical altercations are particularly common in this group. Men with a mental health disorder are believed to be four times more

likely to commit a violent offence than those without these difficulties (Hodgins, 1992) and research suggests that there is an association between mental illness and antisocial and violent behaviour (Daffern & Howells, 2002; Hodgins et al., 2008; Novaco, 1986). Daffern & Howells (2002) suggested that these behaviours could be more evident in this population because mentally disordered offenders (MDOs) are less skilled at managing their environment and less able to effectively communicate their needs.

In terms of criminogenic need (attributes of offenders which have an evidence base linking them directly to criminal behaviour) the main predictors of recidivism are believed to be similar for non-MDOs and MDOs (Bonta, Law & Hanson, 1998); for example: poor problem-solving; drug and alcohol use; past history of offending; attitudes and beliefs supporting a criminal lifestyle (Gendreau, Little & Goggin, 1996; Tarolla, Wagner, Rabinowitz & Tubman, 2002); lack of or poorly developed cognitive and social skills (Porporino et al., 1991, Ross & Hilborn, 2008); deficits in social skills and problem-solving (McMurran et al., 2001a; Müller-Isberner & Hodgins, 2000). These areas are believed to be significant criminogenic risks and are thus targets for interventions as they are believed to be the best way to reduce the likelihood of reoffending. Nevertheless, MDOs are individuals presenting with complex needs and co-morbidities (e.g. executive functioning deficits) and are thus likely to require a more holistic approach.

Reconviction rates are lower for those discharged from forensic mental health hospitals compared to prison; 7% of hospital discharges reoffend within two years of release and 65% of prison releases (*Sainsbury Centre for Mental Health*, 2008). This most likely reflects the

more in-depth risk assessment and individualised treatment programmes provided in forensic mental health. It may also be an artifact of length of stay in forensic mental health being associated with a reduction in risk and 'successful' outcomes in treatment. In spite of this, offending behaviour programmes commonly delivered in forensic mental health settings are those designed for non-MDOs in prison settings (Tong & Farrington, 2006), such as Enhanced Thinking Skills (ETS; Clark, 2000) and Reasoning and Rehabilitation (R&R; Ross et al.1988).

For clinical forensic practitioners, the issue of treatment of MDOs is highly problematic. It is important to note that offenders with mental health difficulties are not restricted to secure hospital settings as research shows mental health problems are common in the wider prison setting and that many of those detained in prison have previous psychiatric admissions (*Sainsbury Centre for Mental Health*, 2008). Staff in these settings are frequently confronted with aggressive clients and as such targeted interventions to reduce antisocial behaviour are vitally important. There is widespread consensus that there is a clear need for risk management of offenders; the difficulty is in determining how certain we can be of an offender's risk of recidivism in order to justify the conditions or restrictions placed upon them and in determining 'what works'.

The 'What Works' Approach and the Growth of Offending Behaviour Programmes

The 'What Works' debate (fuelled by Martinson, 1974) was a contentious area with Martinson and colleagues purporting that research suggested 'nothing works' in offender rehabilitation

and that rehabilitation efforts had "no appreciable effect on recidivism" (Lipton, Martinson & Wilks, 1975). However, more recent literature has instead shown success in rehabilitation attempts (Hollin & Palmer, 2009) which has fuelled the growth of offending behaviour programmes (OBPs).

Current thinking is interventions that are specifically targeted (in terms of content and pace) and delivered in a systematic and structured way will lead to improvement in completion rates, as well as having a positive effect on reducing rates of recidivism (following Andrews & Bonta's 'responsivity principle', 2006). The 'risk, needs and responsivity' approach has had a large impact on offender treatment policy in the UK and, in response to this, research currently appears to be focusing on structured and targeted treatment programmes. An accreditation system has been set up to recognise and monitor programmes being delivered in the prison and probation service. Successful programmes have to meet strict criteria in order to be delivered across these services. What appears to be key to maximising success in treatment is the importance of matching individuals to interventions.

MDOs represent a group with a range of complex needs which present additional challenges for treatment and interventions (Blackburn, 2004). The Sainsbury Centre (2008) put forward suggestions for 'what works' when working with MDOs. Therapist style has been shown to be important, with empathy and warmth as key characteristics (Marshall, 2005). Secondly, collaborative working relationships are an important factor and, third, the suggestion that different interventions be combined to meet the complex nature of MDOs needs (as offending

behaviour programmes are only one component of treatment). The Centre also recognised the need for further research in the case of MDOs and the importance of continuing evolvement of interventions. For MDOs treatments need to target criminogenic needs (Hodgins, 2001) in addition to clinical needs. However, MDOs are likely to benefit from OBPs that are adapted to take into account their level of functioning and clinical complexity.

Cognitive Skills Programmes

Cognitive skills programmes promote a move towards pro-social behaviour by targeting thinking styles and developing skills that are associated with offending (Young, 2010). A number of manualised programmes have been developed that attempt to reduce the rates of reoffending through cognitive skills training; as research indicates that offenders either lack or have poor cognitive and social skills (Porporino et al., 1991). The most widely adopted programmes have been the R&R (Ross et al., 1988) and the ETS programmes (Clark, 2000). The R&R programme was developed by Ross and Fabiano (1985) and was the first manualised cognitive-skills programme designed to specifically address antisocial and offending behaviour (Young, 2010). The premise being that offenders lack skills to enable them to lead more pro-social lives and that cognitive skills can be learnt (Clarke, Cullen, Walwyn & Fahy, 2010). The programme lasts 36 sessions and is run in two hour session slots. R&R was also accredited for use in the prison service.

The programme has been widely researched and a review by Antonowicz (2005) highlighted the efficacy of R&R in a variety of settings with heterogeneous offenders. A meta-analysis of 16 evaluations of R&R showed a 14% reduction in re-conviction for R&R participants residing in institutional settings compared to controls and a 21% decrease in re-offending for participants residing in community settings (Tong & Farrington, 2006).

The advantage of cognitive skills work is that it can be offered as an individual treatment or as a group delivery and can be brief or more long-term (Huband, McMurran, Evans & Duggan, 2007). This allows for a larger number of offenders to have access to therapy and for therapy to be tailored to the individual needs of the person. Cognitive skills interventions have been shown to have a positive effect on reducing offending and antisocial behaviour (Blud et al., 2003; McGuire, 2002) and cognitive skills interventions, including work with persons suffering from mental health problems, have been supported by a number of reviews (Dixon & Goldman, 2004; Hollin & Palmer, 2009; Kendrick 1999) and meta-analytic studies (McGuire, 2002; Wilson, Bouffard & McKenzie, 2005). There is also evidence that cognitive behaviour and skills training components show improvements for personality disordered patients (Tapp et al., 2008). However, the complex needs of such a population is believed to contribute to de-selection and non-completion rates from programmes (Tapp et al., 2008).

Programme Evaluations with MDOs

The Sainsbury Centre (2008) carried out a review of offending behaviour programmes with MDOs and found that there was mixed evidence in their effectiveness, reporting rates ranging

from just below 10% to 24%; though how these were calculated is unclear. They talked about how adaptations have tended to focus on making group work programmes less intensive and more accessible for MDOs as it is presumed that these changes aid retention in programmes. The success of the programme was said to depend on a number of factors including: programme type, age and gender of the offender as well as their level of risk of reoffending. Another difference found was that programmes tend to work more successfully in a prison environment rather than in a community setting; which suggests that a secure hospital setting may also work better for delivery than a community environment. The Centre also suggested that there was emerging evidence of positive outcomes for antisocial attitudes, thinking and behaviour.

Although the original R&R and ETS programmes were not specifically designed to meet the complex needs of MDOs they have been evaluated in this population. A pilot randomised control trial of R&R was conducted by Cullen, Dean, Clarke, Hodgins, Kulpers and Fahy (2009; 2011) to investigate the efficacy of delivering the programme to an MDO population. The authors found that R&R improves problem-solving but they found that there was no reduction in criminal attitudes when comparing treatment participants to controls. They also found that drop-out rates from the programme were high at 50%. This may mean that the R&R programme is less responsive to the needs of this population. Another limitation of the study is that the sample size was small (N=18 and controls N=17) and participants were not randomised. At the present time the follow-up data is not yet available for comparison in order to determine if the effects are maintained over time.

Tapp et al. (2008) carried out an evaluation of the ETS programme in a high security hospital with MDOs. They found positive changes in thinking style and social problem-solving skills; there was no change on perspective-taking measures. At outcome patients were more likely to choose dysfunctional problem-solving solutions. The authors reported no significant differences between completers and non-completers of the programme in terms of demographic information but patients with a longer admission (prior to attending the group) tended to complete the programme. The authors posit that this may be related to individuals' motivation to change and that external motivation, such as moving to lower security or discharge, may be an important factor. Those with a greater number of convictions were more likely to be completers. A major limitation of this study is that there was no control group and a longer term follow up was not conducted to examine whether changes are maintained over time.

Thus cognitive skills programmes developed for the non-MDOs have some limited evidence base when delivered to patients in forensic mental health settings. This led Young and Ross (2007) to develop a revised version of R&R for delivery to MDOs (Reasoning and Rehabilitation programme for adults with mental health problems). The revised R&R2 programme was piloted in MDOs in medium and high security. The authors reported improvement at outcome on measures related to self-reported violent attitudes and informant-reported disruptive behaviour (Young et al., 2010).

Difficulties and Limitations of Efficacy Research

Limitations of efficacy research are particularly difficult to overcome in secure settings. The heterogeneous nature of the research methodologies, populations and settings means that comparing interventions is more complex than in other research areas (Landenberger & Lipsey, 2005). Alongside this the implementation of offending behaviour programmes for offenders is also not without its difficulties. Non-start rates are an example of this and rates of 50% have been reported in probation settings as well as 44% of programme starters not completing programmes (Hollin & Palmer, 2006). The non-completion rates are concerning as research has shown that offenders who do not complete the programmes have higher rates of recidivism than programme completers (Hanson & Bussière, 1998; Palmer, McGuire, Hansome, Hatcher, Bilby & Hollin, 2007).

Although the efficacy of cognitive skills programmes for offenders has been demonstrated in a number of studies (Timmerman et al., 1998), it is less clear how effective these programmes are for persons with mental health needs. Also, most studies that evaluate programme efficacy use re-conviction rates as an outcome measure. This is likely to underestimate any clinical change, such as: changes in antisocial attitudes, thinking processes or cognitive skills (Young et al., 2010). This combined with the methodological and statistical limitations of the studies mean that caution must be taken with interpretation of these results. Randomised controlled trials (RCTs) are said to be the 'gold-standard' design to use when evaluating research (McDougall, Clarbour, Perry & Bowles, 2009) because they reduce change differences

between control and treatment groups; however there are ethical dilemmas when working with patients due to the possible detrimental effect of withholding or delaying treatment for the control group.

The Development and Preliminary Evaluation of Reasoning and Rehabilitation 2 for Adults with Mental Illness

Following from the earlier research in this area it was believed that, because of its broad approach, the original R&R programme did not tailor to the specific needs of a number of groups (Young & Ross, 2007). Mentally Disordered Offenders present with a number of challenging behaviours and psychological difficulties (Moore, Manners, Lee, Quayle, Wilkinson, 2000). The dysexecutive problems that persons with mental illness experience (such as: poor organisational and planning skills and attentional and memory problems) are likely to interfere with their ability to engage or benefit from offending behaviour and cognitive skills programmes. Therefore programmes that aim to address these deficits are likely to improve engagement and effectiveness.

In order to put the programmes in context, the original R&R is 36 sessions long and teaches participants: self-control; meta-cognition; critical reasoning; social skills; interpersonal cognitive problem-solving skills; creative thinking; social perspective-taking; values enhancement and emotional management. R&R2 is 16 sessions in length and is based on a 'neuro-criminology' model that teaches the following: meta-cognition; emotional competence;

interpersonal skills; active listening; relapse-prevention; motivation and self-efficacy. The aim of both programmes is to develop social problem-solving skills and thinking styles that promote pro-social behavior.

In line with the principles of risk, need and responsivity and in order to improve on the success of the R&R programme, the R&R2 programme was developed by Young and Ross (2007) for adults with mental health problems. This new 16 session programme aims to target the cognitive, attitudinal, emotional and behavioural characteristics that are associated with mental illness, by adapting aspects of the R&R, and maximises learning opportunities for group members. Additional material is incorporated in order to target the specific needs of this population and to enhance each individual's ability to acquire pro-social competence. R&R2 aims to teach the group members psychological techniques to reduce symptoms associated with mental illness and to reduce their antisocial behaviour by teaching them to recognise and manage the interaction between their thinking and behaviour. An example of this is the neuro-cognitive module that has been included in the new programme. This aims to help participants improve attention, impulse control and memory so that their engagement can be more meaningful. A mentoring role has also been included (the participant aid to learning; or PAL) because research has shown that this improves completion rates (Hollin & Palmer, 2006; Jones & Hollin, 2004); which is important due to the research evidence suggesting that not completing a programme may increase the risk of reoffending (Hanson & Bussière, 1998). R&R2 is a shorter programme than its predecessor (16 sessions compared to 38), hence it

could potentially be more cost effective to implement across a large number of settings (e.g. community forensic services, institutional care and psychiatric services).

A recently published study conducted a preliminary evaluation of the R&R2 programme and found that the programme was feasible to run within forensic settings (Young et al., 2010). Overall they found participants who completed the group programme showed a significant improvement on outcome measures that related to violent attitudes and disruptive behaviour. This suggests that completers show a reduction in antisocial thinking and behaviour. The authors reported a completion rate of 64.7% which suggests the programme is feasible to run with MDOs. Their drop-out rate was 35% which is favourable compared to the 50% dropout rate reported by Cullen et al. (2011). This suggests the shorter R&R2 programme was better tolerated by MDOs than its predecessor the R&R. Nevertheless the analyses highlight the need for future evaluations incorporating a larger sample size (the Young et al., 2010, study had a sample of N = 70) to enable more powerful analyses and the investigation of further differences as well as the inclusion of a control group.

The Current Study

This study aims to provide a quasi-experimental evaluation of the effectiveness of the R&R2 programme in medium and low secure settings. Specifically the following research questions will be investigated:

1) *How successful is the R&R2 in terms of retention of participants in the programme?*

In order to examine this, percentage rates of completion will be assessed. A cut-off point of 10 sessions is used to determine programme completers (62.5% of the programme); therefore those who completed less than 10 sessions are classified as non-completers (this cut-off is similar to that used in previous studies: Cullen et al., 2011; Tapp et al., 2008 and Young et al., 2010). The average number of sessions attended, homework completed and PAL sessions attended was examined to determine if there were any differences between the two groups.

2) *Are there differences between those participants who completed the group and those who dropped out from the programme?*

A second objective was to identify characteristics that differ between completers and non-completers (those who dropped out) of the programme. Differences will be examined between groups on a number of demographic factors; such as age, index offence, and primary diagnosis. The Patient Motivation Inventory will also be assessed to see if there are any group differences at baseline.

3) *Is the R&R2 programme effective?*

The main objective of this study was to identify any change in the key target areas of the programme, compared with controls, on the basis of psychometric assessments administered pre- and post- group.

As the primary aim of R&R2 is to reduce violent attitudes and behaviour, two key measures relating to these underlying aims were selected:

i) The Maudsley Violence Questionnaire (MVQ; Walker, 2005), a self-report measure of cognitive style in relation to violent attitudes.

ii) The Disruptive Behaviour and Social Psychological Scale (DBSP; Young, Gudjonsson, Ball & Lam, 2003), an informant-rating scale relating to the patient's behaviour and social interactions.

In addition to these two key measures, three further self-report measures that evaluated psychological processes were added:

iii) the Social Problem Solving Inventory – Revised Short Version (SPSI-R:S; D'Zurilla et al., 2002), a measure of problem-solving style.

iv) the Personal Affect Questionnaire (PAQ; Novaco; 2003), a measure of how a person becomes angry, maintains their anger and behaves angrily.

v) and the Locus of Control (LoC; Nowicki & Duke, 1974), a measure of the extent to which participants believe events to be internally or externally controlled.

Method

Participants

The sample is multi-site and was drawn from eight secure units in the SE of England; five of which were medium secure units and three were low secure units. The total sample consisted of 121 male patients (mean age = 34.83, range = 19 to 65 years) detained in medium and low secure settings; (see Figure 4 for a flow-diagram of participants through the study). The ethnic composition was as follows: White (N = 62, 51.2%) and Other (including: Black Caribbean; Black African; Black other and Mixed Race; N = 56, 46.3%). The majority of the sample were held under Section 37/41 (a court order imposing a hospital and restriction order; N = 55, 45.5%; see Appendix 13 for definition of sections); were diagnosed with Psychotic Disorders (including: paranoid schizophrenia; schizophrenia; schizoaffective disorder; N = 102, 84.3%) and had violent index offences (N = 72; 59.5%).

The sample consisted of two groups: The treatment group (N = 67) consisted of patients who had been referred for the R&R2 group by their clinical team (mean age = 34.24, range = 19 to 62). A total of 13 groups were run. The control group (N= 54) consisted of patients who were identified as suitable to undertake the R&R2 programme by their clinical team but had not yet attended the group (mean age = 35.56, range 20 to 65). Participants in the groups were not matched at baseline. The ethnic composition of the treatment group was: White (N = 36, 53.7%) and Other (N = 29, 43.3%) and of the control group was: White (N = 26, 48.1%) and

Other (N = 27, 50%). The majority of both groups were held under Section 37/41 (Treatment N = 31, 46.3%; Control N = 24, 44.4%, see Appendix 13 for definition of sections); were diagnosed with Psychotic Disorders (Treatment N = 56, 83.6%; Control N = 46; 85.2%) and had violent index offences (Treatment N = 35; 52.2%; Control N = 37; 68.5%). See Table 12 for more detailed information.

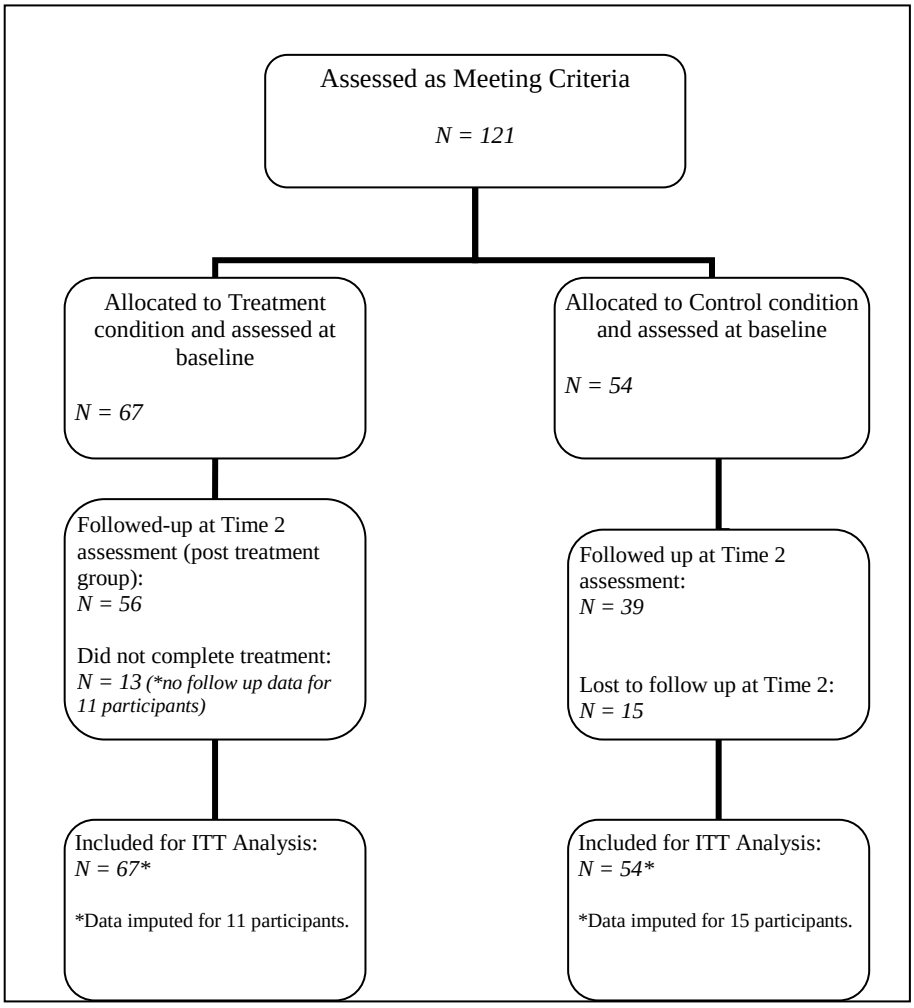

Figure 4: *Flow-chart of participants through the study (Intention to Treat Design, participants were not randomised).*

Measures

Motivation: The Patient Motivation Inventory (PMI) was used as a measure of motivation to engage in treatment. It also assesses whether staying on the unit is perceived as being voluntary and of likely benefit to the patient (Gudjonsson, Young and Yates, 2007). This 16-item (true/false) self-report measure contains three scales: internal motivation; lack of confidence in the unit and feelings of failure. High scores on the *internal motivation* scale (7 items) relate to the patient accepting that they need help and suggests they are motivated to change; a high score on the *lack of confidence* scale (6 items) implies the patient feels the unit they are residing in is not for them and that they feel pressured to engage in treatment and high scores on the *feelings of failure* scale (3 items) relate to patients feeling bad about themselves unless they are participating in treatment. From the preliminary findings the authors state that the measure has shown to be reliable and valid for use with a mental health population. The first two factors or subscales (internal motivation and lack of confidence in the unit) were reported to have reasonable internal consistency (Cronbach's alpha's of .79 and .75 respectively), whereas factor 3 (feeling of failure) had poor internal consistency (Cronbach's alpha .65).

Outcome Measures: The self-report measures that were used were:

1) Maudsley Violence Questionnaire (MVQ): a measure of cognitive style in relation to violent attitudes (Walker, 2005). The scale has two factors: machismo (high scorers endorse stereotypical expectations of men as strong and tough) and acceptance of

violence (high scorers endorse statements implying they enjoy and accept violence) and the Cronbach alpha coefficients ranged from 0.76 to 0.91, in a male student sample. The MVQ was also used in a recent study of the R&R2 programme (Young et al., 2010).

2) Social Problem-Solving Inventory Revised- short version (SPSI-R:S): this measures social-problem solving style (D'Zurilla et al., 2002). Validation studies show that the measure is a valid and reliable measure for use in research and clinical assessment. The tool has been shown to have high levels of internal consistency (ranging from 0.69 to 0.95) and test-retest reliability (ranging from 0.68 to 0.91). See Chapter 3 for more detailed information, including an explanation of subscales.

3) Personal Affect Questionnaire (PAQ): this assesses the way in which a person becomes angry, maintains their anger and behaves angrily (Novaco; 2003). The scale relates to how an individual experiences anger and is derived by combining the sum of the item response values for all of the NAS items on the Cognitive, Arousal and Behaviour subscales (high scores indicating more problematic behaviours). The *cognitive* scale assesses anger justification, rumination, hostile attitude and suspicion; the *arousal* scale measures anger intensity, duration, somatic tension and irritability and the *behaviour* subscale measures impulsive reaction, verbal aggression, physical confrontation and indirect expression. A study with offenders showed a one-month test-retest reliability ranging from 0.78 to 0.91 (Mills, Kroner & Forth, 1998).

4) Locus of Control: to assess the extent to which participants believe events to be internally or externally controlled (Nowicki & Duke, 1974). A high score indicates that the person perceives events as externally controlled whereas a low score indicates a person believes they control events internally. The scale has been normed with depressed, psychiatric and low socio-economic populations and has been found to have adequate internal consistency and strong validity (Beretvas, Suizzo, Durham & Yarnell, 2007).

The informant questionnaires, used to corroborate self-report measures, are:

1) Questionnaire of Antisocial and Problematic Behaviour on the Ward. This was designed by the Department of Forensic Mental Health Science, Institute of Psychiatry (2005). It requires informants to answer questions relating the presence or absence of problematic behaviours on the ward; e.g. compliance with medication, inappropriate behaviour and violation of leave arrangements. Higher scores indicate more problematic behaviours.

2) Disruptive Behaviour and Social Problem Scale (DBSP) (Young et al., 2003). This consists of 14 statements that relate to the person's behaviour and social interactions and is rated by a member of staff. Responses are scored on a 7-point scale which ranges from 'Not at all' (1) to 'Very Much So' (7). Higher scores indicate a greater degree of problems on the scales. The scale consists of two factors: the Disruptive Behaviour Scale and the Social and Psychological Problem Scale. The *disruptive behaviour scale*

relates to disruptive behavioural problems on the ward, for example: whether the patient is difficult to manage; if they are verbally aggressive or seek attention from staff or patients. The *social and psychological scale* (reverse scored) looks at patient's social interactions, for example: whether they show good insight into their behaviour, whether they show feelings of guilt after wrongdoings and whether they get on well with staff and patients. Both of these factors have good internal consistency (Cronbach's alpha = .92 and .84 respectively).

For the treatment group, a session log was also completed in order to keep a record of the number of sessions attended by participants, whether the out of session work was completed and if the individual PAL (Participant's Aid to Learning) sessions were attended.

Procedure

Participants who met the criteria for undertaking the R&R2 programme were first identified and approached by their clinical teams. The intervention programme itself was conducted as part of the patient's treatment plan as usual and no standard procedures were withheld from participants agreeing to take part in the research. All members of staff involved in the facilitation of the group received the appropriate and adequate training in order to be able to run the R&R2 programme in order to maintain integrity of programme delivery. All facilitators attended a three-day training course that was delivered by Dr Susan Young (R&R2 programme developer), this was a pass or fail course which required participants to reach an acceptable level of facilitation

(determined by the Cognitive Centre of Canada; Young & Ross, 2007). Facilitators came from a number of disciplines including: nursing; occupational therapy; psychology and psychiatry and had varying degrees of experience in delivering group-work programmes. Due to limited resources, group sessions could not be monitored across the research sites in order to ensure programme integrity. However, a steering committee comprising of a lead staff representative for each unit was established in order to maintain a consistent approach to research and treatment as well as allowing for the discussion and resolution of any difficulties with data collection or programme adherence. Onsite supervision was carried out at each site by the programme lead (in the majority of cases this was carried out by a Qualified Clinical or Forensic Psychologist) who checked delivery and provided feedback and support during facilitator debriefs. Unfortunately, the frequency and duration of these sessions were not recorded.

The patient's clinical teams approached the participants regarding their referral to the group before participants were approached with information about the purpose and content of the research. The clinical teams were consulted throughout and remained responsible for deciding whether the intervention was appropriate and necessary for their patients. Prior to agreeing to take part in the research patients were briefed in detail as to the purpose of the research and what to expect (i.e. that they would be actively involved for a total of 2 hours across two time periods and that records data and informant measures would be completed). They were also informed of their right to withdraw at any point during the research and that should they decide not to participate in the research their treatment and care plans would not be affected.

Each group ran for a total of 16 sessions lasting 90 minutes each, alongside this participants meet with a mentor (Participant Aid to Learning; PAL) once a week. In these individual sessions the mentors meet with programme participants for an hour at a time. The aim of these sessions is to help support group members in transferring skills from the group into their daily lives. In the current study the majority of PAL's were the patient's primary nurse or the ward psychology assistant. All PALs were provided with onsite training from the site clinical lead and were provided with a PAL manual (guiding the content of each session, which links directly to the previous group session) along with further written guidelines to ensure consistency.

The 16 sessions are organised around 5 core modules:

1) Neurocognitive module: which aims to address problems associated with functioning deficits. It also introduces techniques to improve attentional control, memory, impulse control and develops skills in constructive planning.

2) Problem solving module: aims to teach participants problem solving attitudes and skills that will enable them to apply skilled thinking when solving problems. The module aims to teach participants to identify problems, gather adequate and reliable information and generate alternative solutions. Training is also given in consequential thinking, managing conflict and making appropriate and effective choices.

3) Emotional control module: this module aims to train participants in techniques to enable them to recognise and manage thoughts and feelings of anger and anxiety.

4) Social skills module: this module involves participants in the recognition of the thoughts and feeling of others (both verbal and nonverbal), social perspective taking and the development of empathy. It teaches critical reasoning, negotiation and conflict resolution skills.

5) Critical reasoning module: this aims to train patients to identify thinking errors and to engage in a rationalized thinking process. A dilemmas game is used to teach participants that they have choices to make in life, that there are alternative possibilities and effective ways of thinking and/or behaving, evaluating options, selecting and making good choices.

A cut-off of 10 sessions (62.5% of the programme) was used to classify patients as completers (≥ 11 sessions) or non-completers (≤ 10 sessions). This follows the same procedure as Young et al. (2010) R&R2 study and is similar to the cut-off used in the Cullen et al. (2011) study evaluating the R&R programme and the same as the Tapp et al. (2008) study evaluating the ETS programme with MDOs.

Control patients were also firstly identified by the clinical teams as meeting the criteria for the R&R2 group and were given an information sheet detailing the purpose of the research and what

level of participation would be required; as well as being given the opportunity to ask any questions. Control patients were largely sourced from sites that were yet to run the R&R2 programme (as they were awaiting official training) but were comparable to sites where the group was being conducted (in terms of security level and patient type); alternatively patients who were on a waiting-list to attend the R&R2 programme were approached and if measures were collected their group data was then excluded from the current study. As with the treatment condition, patients in the control condition were informed that should they decide not to participate in the research their treatment and care plans would not be affected. Also patients were informed that they were free to withdraw from the research without any negative consequences and were reminded that their participation is entirely voluntary and would not bring with it any known benefits. Control participants received 'treatment as usual' during the study and received no extra input from clinical or research teams in place of the R&R2 programme.

Inclusion/ Exclusion Criteria:

- Inclusion criteria for participants were:

1) Male inpatients in medium and low secure units.
2) Diagnosed with a severe mental disorder or disability of mind (as listed on the ICD-10 or DSM IV Checklist).
3) Had a history of violent or antisocial behaviour leading to the current treatment episode.

4) Aged 18 to 65.

- Exclusion criteria for participants were:

1) Patients who were intellectually disabled. An IQ cut-off of 65 was used as persons with this score are considered to be in the mild learning disability range (ICD-10) and this was considered to be an exclusion criterion for the current study as patients are likely to require adaptations to the programme in order for material to be accessible. This is also the cut-off used in the Young et al. (2010) study evaluating the feasibility of R&R2 and, as highlighted in the systematic review (Chapter 2), there is a need for researchers to be more consistent in their study design in order to allow data to be more easily combined and compared across studies.
2) Inability to read or write English to an acceptable level for programme participation.
3) Any patient presenting exclusively with a diagnosis of a personality disorder.
4) Any patient who has previously completed the R&R or Enhanced Thinking Skills programme.

The study adopts a repeated measures design where participants were asked to complete five self-report measures at time one (pre-group) and four at time two (post-group); the PMI was used as a baseline measure. Demographic records data, criminal and psychiatric history information were also collected for each participant. Two informant measures were completed by the same staff member (often the primary nurse) at time one and time two.

The methodology of data collection was as follows:

- Time 1- Demographic records, psychiatric and criminal history data was collected and participants were asked to complete five self-report questionnaires and a key member of staff was asked to complete two informant questionnaires.

- Time 2- Four self-report questionnaires (excluding PMI) were re-administered and the same key worker as in Time 1 was asked to complete the informant questionnaires.

All data collection was completed by trained researchers who had not been involved in the delivery of the programme. This was then compiled centrally where the information was scored and input into a statistical database (SPSS) from which the analyses were conducted. The researchers did not attend the groups or the on-site supervision sessions, run at each unit, in order that they remained, as far as possible, blind to the progress and performance of the participants. The participants in both conditions were not asked to refrain from engaging in other interventions during the study period and received 'therapy as usual'. As information about other interventions was not collected the effects of this could not be controlled for. There was also no protocol for ensuring treatment integrity at the different sites.

Treatment of Data

Estimating the power for explorative studies presents difficulties because it is not known what the effect size of the treatment will be. For this study the Social Problem Solving Inventory-

Revised (SPSI-R:S; D'Zurilla et al., 2002) was used in order to calculate the effect size; the rationale being that it is the main measure for the problem-solving skills that the R&R2 pro-social competence programme aims to address and rectify. The effect sizes used in the power calculations were determined from the results of a recent study with a similar methodology to the current study and where the SPSI-R:S measure was use to compare pre and post-treatment scores (Young et al., 2010). Unfortunately data could not be established for ANCOVA analyses, as used in the current study, as the data that was available from the Young et al. (2010) study were paired samples t-tests. In the example study, the pre and post-treatment mean scores (standard deviations) of the total score (SPS) subscale of the SPSI-R:S were 8.81 (3.91) and 10.38 (3.13), respectively. Considering these, a power analyses was carried out using G power: A sample size of 43 would have 80% power to detect a significant change ($p<0.05$, two-tailed; effect size = 0.44) between pre and post-treatment means of 1.57 on the SPS scale, assuming a correlation between pre and post intervention of 0.5. The current sample size of N = 121 would therefore be sufficient to detect a significant change between time one and two.

Data Analysis

All data was analysed using the Statistical Package for the Social Sciences (SPSS; version 19). Effect sizes and adjustments were calculated according to formula and directions as cited in Field (2005) and corrections were applied where appropriate to minimise the risk of Type 1 errors.

An Intention to Treat (ITT) analysis design was used. In this design missing scores are imputed using the last observation carried forward (i.e. in this case, Time 1 scores imputed at Time 2). In total, data was imputed for 11 treatment participants (16% of the treatment group) and 15 control participants (28% of the control group) (see Figure 4). ITT analysis is used because treatment 'drop out' may not be random and also because a per-protocol (PP) analysis may overestimate effects of therapy; which may show that a treatment is effective when this may not be the case (false positive results). This analysis is based on the initial treatment intent and not on the treatment that is eventually administered (i.e. it includes all those who were enrolled originally in each condition). A PP analysis was carried out for comparison with the ITT results. In this case the analyses showed the same pattern of results as the ITT analyses; as such the ITT results will be reported.

For all scales and subscales where data were missing, for less than 10% of the items, missing scores were estimated by pro-rating; as per manual guidelines. There were no questionnaires where data was missing for more than 10% of items and therefore no data needed to be omitted from the analysis.

In order to analyse the reliability of the questionnaire 'Antisocial and Problematic Behaviour on the Ward', Cronbach's alpha was used (Field, 2005). The analysis showed that the scale was not reliable (11 items, $\alpha = .55$) as most items did not correlate with the total. Although values of .7 are usually considered to represent 'good' reliability, Kline (1999) reported that when measuring psychological constructs values below this are to be expected. However, in assessing

the inter-item analyses for this scale, these showed that eight items had correlations below .3 suggesting they should not be included; as such this data was not included for analysis.

Data was analysed for each of the three research questions as follows:

1) *How successful is the R&R2 in terms of retention of participants in the programme?*

In order to examine this, percentage rates of completion were assessed. The average number of sessions attended, homework completed and PAL sessions attended was examined to determine if there were any differences between the two groups.

2) *Are there differences between those participants who completed the group and those who dropped out from the programme?*

Bivariate analyses (Independent Samples T-tests and Chi-Square analyses) were used to compare completers (N = 54) and non-completers (those who dropped out of the programme, N = 13) on details obtained from the participants case files. Independent samples t-tests were also conducted on pre-treatment scores comparing the two groups. Two-tailed tests were used as the analyses were exploratory.

3) *Is the R&R2 programme effective?*

Bivariate analyses were used to compare those in the treatment condition (N = 67) to those in the control condition (N = 54). Independent Samples T-Tests and Chi-Square analyses were used to determine whether groups differed at baseline on the six measures. Two-tailed tests were used as the analyses were exploratory. Univariate analyses were used to control for any differences that existed and to reduce error variance. Post treatment group differences were therefore examined using one-tailed analysis of covariance (ANCOVA), with pre-treatment scores as covariates. Effect sizes were calculated according to the formula cited in Field (2005).

Ethics

Ethical clearance was obtained from the National Research Ethics committee and then from each trust (Research and Development approval) or private hospital (Site-Specific Assessments carried out by the relevant National Ethics committees) included in the study. Each participant in the investigation consented to participation and was reminded that he could withdraw at any time from the study.

Results

1) How successful is the R&R2 in terms of retention of participants in the programme?

Of those patients in the treatment condition, 54 completed the group giving a group completion rate of 80.6%. Thirteen did not complete the programme (attending fewer than 11 sessions) giving a group non-completion (or group 'drop-out') rate of 19.4%.

Reasons for non-completion.

Thirteen participants (19%) did not complete the programme. Three participants (23%) did not complete the programme due to a lack of motivation (i.e. non-compliance). The remaining 10 participants (77%) did not complete the programme for other reasons, specifically: a decline in mental state (3 patients, 23%); being transferred or discharged (1 participant, 8%) and one patient's college course clashed with session time (8%). Reason for non-completion were categorised and recorded by each unit and reasons were not recorded for 5 participants (38%).

2) Are there differences between those participants who completed the group and those who dropped out (non-completers) from the programme?

Number of sessions attended.

Table 12: *Comparative descriptive statistics for R&R2 'Completers' (N=54) and 'Non-Completers' (N=13)*

Descriptive	Category	Completers *N*	Completers M (SD)	Non-Completers^ *N*	Non-Completers^ M (SD)	Independent T-Tests T-SCORES (DF)	Effect Size (r)
Mean Age		*54*	34.78 (8.63) Range = 20-62	*12*	31.83 (8.17) Range = 19-46	1.08 (64)	
Mean Poly-substance Use	Range from 0 (no substances) to 10	*53*	2.83 (1.87) Range= 0-7	*12*	3.3 (1.61) Range = 0-10	-.86 (63)	
Mean Number of previous Admissions		*43*	3.88 (3.61) Range = 0-13	*10*	5.3 (4.40) Range = 0-12	-1.07 (51)	
Mean Number of previous convictions		*46*	7.04 (14.52) Range = 0-93	*11*	8.18 (9.18) Range = 0-30	-.248 (55)	
Mean Previous convictions leading to imprisonment		*37*	1.27 (1.35) Range = 0-5	*11*	1 (1.09) Range = 0-3	.607 (46)	
Patient Motivation Inventory	Internal Motivation score		6.06 (1.64)		5.23 (1.64)	1.63	
	Lack of Confidence score		3.93 (1.29)		3.92 (1.66)	.01	
	Feeling of Failure score		1.54 (.97)		.85 (1.07)	2.27*	0.29
	Total PMI score		11.52 (3.12)		10 (3.92)	1.50	

Descriptive	Category	Completers		Non-Completers^		Chi-Square tests
		N	M (SD)	*N*	M (SD)	(DF, N)
Ethnicity	White	*53*	31 (57.4%)	*12*	5 (38.5%)	.29 (1, 65)
	Other		22 (40.7%)		7 (53.8%)	
Index Offence	Violent	*51*	30 (55.6%)	*11*	5 (38.5%)	11.96 (4, 62) **
	Financial		3 (5.6%)		2 (15.4%)	(Cramer's V effect size = .44)
	Drug		0		1 (7.7%)	
	Sexual		11 (20.4%)		3 (23.1%)	
	Other		7 (13.0%)		0	
Section (MHA 1983)	Section 3	*54*	12 (22.2%)	*12*	5 (38.5%)	.29 (6, 66)
	Section 37		8 (14.8%)		0	
	Notional 37		4 (7.4%)		0	
	Section 38		1 (1.9%)		0	
	Section 37/41		26 (48.1%)		5 (38.5%)	
	Section 47		1 (1.9%)		0	
	Section 47/49		2 (3.7%)		2 (15.4%)	
Primary Diagnosis	Psychotic Disorders	*53*	44 (81.55%)	*12*	12 (92.3%)	2.365 (3, 65)
	Developmental Disorders		1 (1.9%)		0	
	Personality Disorder		6 (11.1%)		0	
	Bipolar Disorder		2 (3.7%)		0	

Key: Ethnicity Other includes: Black Caribbean; Black African; Black other and Mixed Race./ Index Offence: Violent includes: homicide; other violent and firearms offences; Financial includes: property and acquisitional; Other includes: rehabilitation orders, arson, stalking./ Primary Diagnosis: Psychotic Disorders includes: paranoid schizophrenia; schizoaffective disorder and Developmental Disorders includes: ADHD and LD./ See Appendix 8 for information on Mental Health Sections.

^ *Reasons for dropout, as recorded by each unit, included: non-compliance; clash with college course; could not cope with course demands.*

***Significant at the p < .05 level, two-tailed*

Of the 54 group completers, the average number of sessions attended was 15 (SD = 1.35; range = 11-16 sessions). The average number of home-works completed was 10 (SD = 4.56; range = 0-16) and average number of PAL sessions attended was 12 (SD = 4.08; range = 2-16) Of the 13 non-completers, the average number of sessions attended was 6 (SD = 2.97; range = 0-10 sessions). The average number of home-works completed was 4 (SD = 4.78; range 0-15) and average number of PAL sessions attended was 5 (SD = 4.67; range 2-16).

Between group comparison of demographic information and Time 1 outcome measure scores for the group completers and non-completers

Demographic information.

Independent t-tests and Chi-Square tests showed no difference between the group completers and non-completers on demographic measures with the exception of the *Index Offence Category* ($\chi^2(4) = 11.96$, $p < .05$; medium effect size; Cramer's V = .44). This suggests that offence type was significantly related to completion. However, this is not a reliable statistic given the low cell counts and therefore the direction of the effect could not be explored further (see Table 12).

The PMI measure was used at baseline to determine if there were any differences in participant's motivation to engage in treatment. Significant differences were found at baseline

on the *Feelings of Failure Subscale* ($t(65) = 2.269$, $p < .05$; $r = .29$), there were no other significant differences between the completers and non-completers (see Table 12).

Time 1 outcome measures.

Independent t-tests were used to determine whether there were any significant differences between group completers and the non-completers on the pre-treatment (Time 1) scores (see Table 13).

Significant differences were found at Time 1 on the Social Problem Solving Scale (SPRS-R:S) on the *Negative Problem Solving Score* ($t(65) = 2.836$, $p < .05$; $r = .44$) and on the *Total score* ($t(65) = -2.315$, $p < .05$; $r = .28$). No significant differences were found for the other scales (see Table 13).

3) Is the R&R2 programme effective?

Between group comparison of demographic information and Time 1 outcome measure scores for the treatment group and controls.

Table 13: *Results of Between-Group comparison of Time 1 Outcome Measures for Completers and Non-Completers.*

Scale	Completers Time 1 *(N= 54)* Mean (SD)	Non-Completers Time 1 *(N = 13)* Mean (SD)	T Value (DF= 65)	Effect Size (r)
Maudsley Violence Questionnaire:				
Total Machismo Factor	9.74 (9.90)	9.69 (10.27)	.016	
Total Acceptance of Violence Factor	6.67 (3.56)	5.92 (4.13)	.66	
Total Score	16.41 (12.52)	15.62 (13.49)	.20	
Social Problem Solving Inventory:				
Positive Problem Orientation score	11.63 (4.52)	12.46 (2.88)	-.63	
Negative Problem Orientation score	8.20 (4.91)	4.00 (4.26)	2.84**	0.44
Rational Problem Solving score	10.11 (4.80)	11.38 (3.45)	-.90	
Impulsivity/ Carelessness score	8.91 (5.14)	7.46 (5.29)	.91	
Avoidance Style score	8.07 (4.77)	5.69 (3.59)	1.69	
Total SPSI score	11.31 (2.86)	13.34 (2.74)	-2.32*	0.28
Personal Affect Questionnaire:				
Cognitive Domain	29.69 (6.13)	28.00 (5.35)	.91	
Arousal Domain	27.26 (7.93)	25.92 (6.58)	.56	
Behaviour Domain	26.30 (8.10)	25.15 (6.52)	.47	
Total PAQ score	83.24 (21.26)	79.08 (17.41)	.65	
Locus of Control:				
Total LOC score	16.78 (5.41)	13.46 (4.12)	2.07	
Disruptive Behaviour and Social Problem Scale:				
Disruptive Behaviour Score	16.57 (7.73)	14.63 (1.77)	.70	
Social and Psychological Score	20.55 (6.28)	23.25 (8.51)	-1.06	
Total Score	37.11 (10.45)	37.88 (8.84)	-.19	

**Significant at the p < .05 level, two-tailed*
***Significant at the p < .01 level, two-tailed*

Demographic information.

Descriptive analyses were used to compare those in the treatment condition (N = 67) to those in the control condition (N = 54). Independent t-tests and Chi-Square tests showed no difference between the treatment group completers and control group on demographic measures with the exception of the average number of previous convictions leading to imprisonment, with the control group averaging more convictions ($t(89) = -2.03$, $p < .05$; with a small effect size, $r = .21$; see Table 14).

The PMI measure was used at baseline to determine if there were any differences in participant's motivation to engage in treatment, there were no significant differences between the two groups, suggesting they were well matched at baseline (see Table 14).

Time 1 outcome measures.

Independent t-tests were used to determine whether there were any significant differences between the treatment group and the control group on the Time 1 scores to assess whether groups were well matched at baseline (see Table 15). There were no significant differences found at Time 1 on the outcome measures, with the exception of the *Impulsivity/ Carelessness Scale* (ICS) of the *Social Problem Solving* scale (SPRS-R:S). The treatment group scored more highly on average on this scale ($t(119) = 2.28$, $p < .05$; with a small effect size, $r = .20$; see Table 15).

Comparison of outcome measures for Treatment Group vs Control Group.

Post-treatment group differences were examined using analysis of covariance (ANCOVA), with pre-treatment scores as covariates (see Table 16 for results of these analyses).

Self-report outcome measures.

After adjusting for baseline means, the planned contrasts showed that being in the treatment group significantly decreased scores on the MVQ for all scales compared to being in the control group (*Machismo*: $t(118) = -3.35$, $p < .01$, $r = .29$; *Acceptance*: $t(118) = -1.95$, $p < .05$, $r = .18$; *Total*: $t(118) = -3.32$, $p < .01$, $r = .29$). The effect sizes for the *Machismo* and *Total* scales were medium and for the *Acceptance* scale the effect size was small.

Being in the treatment condition significantly increased scores on the *Rational Problem Solving* scale of the SPSI-R:S compared to the control condition ($t(118) = 2.49$, $p < .05$, $r = .16$) with a small effect size. On the PAQ, being in the control condition significantly increased scores on the *Cognitive* scale compared to those in the treatment condition ($t(118) = -1.77$, $p < .05$, $r = .16$); with a small effect size.

With respect to the other scales, no significant differences were found between the two conditions at Time 2.

Informant Rated Outcome Measure.

Planned contrasts showed that scores on the *Social and Psychological* scale and on the *Total* scale of the DBSP were higher for the control condition compared to the treatment group at Time 2 (*Social and Psychological*: $t(94) = -1.80$, $p < .05$, $r = .16$; *Total*: $t(94) = 1.75$, $p \leq .05$, r.16); both with small effect sizes. There were no significant differences between scores on the *Disruptive* Behaviour scale of the DBSP (see Table 16).

Table 14: *Comparative descriptive statistics for R&R2 'Treatment Group' (N=67) and 'Control Group' (N=54)*

Descriptive	Category	Treatment Group		Control Group		Independent T-Tests
		N	M (SD)	*N*	M (SD)	T-Scores (DF)
Mean Age		*66*	34.24 (8.56) Range = 19-62	*54*	35.56 (10.86) Range = 20-65	-.74 (118)
Mean Poly-substance Use	Range from 0 (no substances) to 10	*65*	2.92 (1.82) Range = 0-7	*54*	2.41 (1.98) Range = 0-7	1.48 (117)
Mean Number of previous Admissions		*53*	4.15 (3.77) Range = 0-13	*48*	3.75 (4.56) Range = 0-23	.48 (99)
Mean Number of previous convictions		*57*	7.26 (13.59) Range = 0-93	*50*	8.96 (13.33) Range = 0-73	-.65 (105)
Mean Previous convictions leading to imprisonment		*48*	1.21 (1.29) Range = 0-5	*43*	2.23 (3.23) Range = 0-20	-2.03 (89) **
Patient Motivation Inventory	Internal Motivation score	*67*	5.90 (1.66)	*54*	5.59 (1.84)	.95
	Lack of Confidence score	*67*	3.93 (1.35)	*54*	4.09 (1.61)	-.62
	Feeling of Failure score	*67*	1.40 (1.02)	*54*	1.54 (1.08)	-70
	Total PMI score	*67*	11.22 (3.31)	*54*	11.22 (3.55)	.003

Descriptive	Category	Treatment Group		Control Group *n*		Chi-Square tests
		N	M (SD)	*N*	M (SD)	(DF, N)
Ethnicity	White	*65*	36 (53.7%)	*53*	26 (48.1%)	.47 (1, 118)
	Other		29 (43.3%)		27 (50%)	
Index Offence	Violent	*62*	35 (52.2%)	*53*	37 (68.5%)	7.38 (4, 115)
	Financial		3 (4.5%)		6 (11.1%)	
	Drug		2 (3%)		1 (1.9%)	
	Sexual		12 (17.9%)		7 (13%)	
	Other		10 (14.9%)		2 (3.7%)	
Section (MHA 1983)	Section 2	*66*	0	*54*	1 (1.9%)	12.65 (9, 120)
	Section 3		17 (25.4%)		5 (9.3%)	
	Section 37		8 (11.9%)		12 (22.2%)	
	Notional 37		4 (6%)		2 (3.7%)	
	Section 38		1 (1.5%)		1 (1.9%	
	Section 37/41		31 (46.3%)		24 (44.4%)	
	Section 47		1 (1.5%)		0	
	Section 48		0		1 (1.9%)	
	Section 47/49		4 (6%)		7 (13%)	
	Section 48/49		0		1 (1.9%)	
Primary Diagnosis	Psychotic Disorders	*65*	56 (83.6%)	*54*	46 (85.2%)	2.05 (3, 119)
	Developmental Disorders		1 (1.5%)		0	
	Personality Disorder		6 (9%)		4 (7.4%)	
	Bipolar Disorder		2 (3%)		4 (7.4%)	

Key: Ethnicity Other includes: Black Caribbean; Black African; Black other and Mixed Race./ Index Offence: Violent includes: homicide; other violent and firearms offences; Financial includes: property and acquisitional; Other includes: rehabilitation orders, arson, stalking./ Primary Diagnosis: Psychotic Disorders includes: paranoid schizophrenia; schizoaffective disorder and Developmental Disorders includes: ADHD and LD./ See Appendix 8 for information on Mental Health Sections.

^ *Reasons for dropout included: non-compliance; clash with college course; could not cope with course demands.*
***Significant at the p < .05 level, two-tailed*

Table 15: *Results of Between-Group comparison of Time 1 Outcome Measures for Treatment Group and Control Group.*

Scale	Treatment Group Mean (SD) *(N= 67)*	Control Group Mean (SD) *(N = 54)*	T Value (DF= 119)	Effect Size (r)
Maudsley Violence Questionnaire:				
Total Machismo Factor	9.73 (9.90)	8.17 (1.14)	.93	
Total Acceptance of Violence Factor	6.52 (3.66)	6.19 (3.92)	.49	
Total Score	16.25 (12.61)	14.35 (11.28)	.86	
Social Problem Solving Inventory:				
Positive Problem Orientation score	11.79 (4.25)	11.78 (4.09)	.02	
Negative Problem Orientation score	7.39 (5.05)	6.83 (5.10)	.60	
Rational Problem Solving score	10.36 (4.58)	10.81 (4.46)	-.55	
Impulsivity/ Carelessness score	8.63 (5.16)	6.67 (4.07)	2.28*	0.20
Avoidance Style score	7.61 (4.64)	6.04 (4.25)	1.92	
Total SPSI score	11.70 (2.93)	12.61 (2.73)	-1.75	
Personal Affect Questionnaire:				
Cognitive Domain	29.36 (5.99)	27.80 (5.51)	1.48	
Arousal Domain	27.00 (7.66)	25.35 (6.41)	1.26	
Behaviour Domain	26.07 (7.78)	23.78 (5.83)	1.80	
Total PAQ score	82.43 (20.51)	76.93 (16.62)	1.60	
Locus of Control:				
Total LOC score	16.13 (5.32)	116.04 (5.51)	.09 (114)	
Disruptive Behaviour and Social Problem Scale:				
Disruptive Behaviour Score	16.27 (7.16)	16.89 (8.52)	-.39 (95)	
Social and Psychological Score	20.96 (6.64)	21.00 (9.25)	-.02 (95)	
Total Score	37.23 (10.14)	37.89 (15.50)	-.25 (95)	

**Significant at the p < .05 level, two-tailed*
***Significant at the p < .01 level, two-tailed*

Table 16: *Results of ANCOVA tests comparing group differences in post-treatment scores after adjusting for pre-treatment scores.*

Scale	Adjusted mean difference (Treatment-Control)	*t* statistic	95% CI		p-value	Effect size r
			Lower	Upper		
Maudsley Violence Questionnaire:						
Total Machismo Factor	-2.95	-3.35	-4.69	-1.21	0.005**	.29
Total Acceptance of Violence Factor	-.76	-1.95	-1.52	.012	.025*	.18
Total Score	-3.73	-3.32	-5.95	-1.51	.0005**	.29
Social Problem Solving Inventory:						
Positive Problem Orientation score	1.02	1.44	-.38	2.42	.075	
Negative Problem Orientation score	.48	.80	-.70	1.66	.215	
Rational Problem Solving score	1.59	2.49	.33	2.86	.007**	.22
Impulsivity/ Carelessness score	.276	.413	-1.05	1.6	.34	
Avoidance Style score	.92	1.39	-.40	2.24	.085	
Total SPSI score	.24	.61	-.55	1.03	.27	
Personal Affect Questionnaire:						
Cognitive Domain	-1.17	-1.77	-2.47	.14	.04*	.16
Arousal Domain	-1.07	-1.39	-2.60	.45	.08	
Behaviour Domain	-.82	-1.08	-2.31	.68	.14	
Total PAQ score	-3.09	-1.61	-6.91	.72	.06	
Locus of Control:						
Total LOC score	-.18	-.25	-1.64	1.27	.40	
Disruptive Behaviour and Social Problem Scale:						
Disruptive Behaviour Score	-.95	-.74	-3.49	1.59	.23	
Social and Psychological Score	-1.96	-1.80	-4.12	.21	.04*	0.16
Total Score	-2.92	1.75	-6.39	.56	.05*	0.16

Significant at the p < .05 level, one-tailed* * Significant at the p < .01 level, one-tailed.*

Discussion

The purpose of this study was to evaluate evidence for the effectiveness of a newly developed programme for mentally disordered offenders in secure settings, the Reasoning and Rehabilitation 2 programme. Considered together, the results show the R&R2 to be a useful programme for MDOs.

Summary of Results

Considering the first research question which aimed to understand the success of the R&R2 in retaining patients, it is clear that the majority of patients completed the programme; attending at least 10 of the 16 sessions. Of the 67 patients in the treatment condition, 54 participants completed the group. This gave a group completion rate of 80.6% or non-completion (drop-out rate) of 19.4%. The present study therefore shows a higher completion rate than the preliminary evaluation of the programme researched by Young et al. (2010) who reported a completion rate of 64.7% in a high secure setting. This suggests that the R&R2 group is feasible to run in medium and low secure settings. The 'drop-out' rate in this study is also considerably lower than found in the Cullen et al. (2011) study who reported a 50% dropout from the original R&R programme when trialled with MDOs in medium secure settings.

In the current study three patients did not complete the treatment due to a decline in their mental health. Hospital settings have been shown to have lower completion rates than prison

settings and it has been suggested this is a reflection of the changing mental states of patients in secure settings (Hollin & Palmer, 2006). However, the high rates of completion in the current study highlight that there may be other factors that are more important for treatment retention (such as mentoring) that require further investigation. For example, it may be the case that programme length and intensity of treatment have an impact on retention; as the R&R2 is 22 sessions shorter than its R&R predecessor. However, the new programme also introduces PAL mentoring sessions and this approach may be the mediating factor in programme retention as this is known to improve completion rates (Hollin & Palmer, 2006; Jones & Hollin, 2004). It may also be that the lower number of non-completers found in this study, compared to previous studies, may be accounted for by the changes made to the original programme in order to make it more responsive to the needs of the mental health population. However, without any qualitative research conducted on patient feedback this is speculative at the current time and would require further investigation.

The finding that treatment compliance is higher in institutional settings (Hollin & Palmer, 2006) is perhaps a reflection of the role of external constraints placed upon offenders, which are more stringent than in the community. Something that should also be considered when looking at group completion rates is the effect of treatment process variables, such as patient transfer or a clash of demands from service (e.g. education and offending behaviour programme sessions clashing). In the current study this impacted on two participants in the treatment group, however a higher number of control participants were affected. Services should therefore carefully consider such organisational difficulties and plan accordingly; for

example, where possible, placing patients on hold from a transfer until they have completed treatment. Of course, it must be noted that it is inherently difficult to compare completion rates from different programmes due to the heterogeneous nature of the patients but also of the settings (prison, hospital and community and variations within these sub-types).

Assessing reconviction rates was outside of the scope of the current study, however previous research has found that programme non-completers have higher rates of recidivism than completers or non-starters (*National Offender Management Service Bulletin*, 2010). As such, this has important implications for management of offenders, selection of participants for group programmes and for the design of group-work programmes. The high completion rate in this study is therefore a hugely important finding given the implications of treatment 'drop-out'.

Differences between Completers and Dropouts.

In terms of differences between completers and non-completers, analyses showed no differences in demographic data, other than when looking at the Index Offence Category; however this could not be reliably explored further using post-hoc tests. Previous studies have found that characteristics such as age and criminal history have been associated with non-completion (Van Voorhis, Spruance, Ritchey, Listawan & Seabrook, 2004). This study supports the research that there is an impact of criminal history as differences were found, however what could not be determined reliably was where these differences may lie.

However, this needs to be considered in the context of the very low drop-out rate which suggests treatment retention can be successful for a number of heterogeneous offenders.

There were significant differences found at Time 1 on the Social Problem Solving Scale (SPRS-R:S) on the *Negative Problem Solving Score* and on the *Total score*. The higher scores on the NPO scale for those in the completer group, suggests that, on average, those in the completer group had more ineffective problem-solving styles than those in the non-completer group at baseline. The differences on the total score also suggest that at baseline those in the dropout group had superior problem-solving skills compared to the treatment group. This warrants further investigation as at first it appears to be counter-intuitive, as you may expect non-completers to have poorer problem-solving skills as it has been suggested this is linked to programme drop-out (McMurran et al., 2008). However, there may also be other factors involved, as group members may become 'bored' with the repetitive elements of the course or may find course materials patronising (particularly if familiar with other cognitive-skills programmes; previous completion of R&R or ETS was an exclusion criterion of the current study however participants may have been exposed to other similarly aimed programmes). Therefore factors, other than problem-solving ability, may be affecting non-completion in the current study (see factors predicting dropout in Cullen et al., 2010, for a more in-depth discussion).

Significant differences were also found on the *Feelings of Failure* scale of the PMI questionnaire with the completer group scoring more highly on average at baseline. This scale

relates to patients feeling bad about themselves unless they are participating in treatment. It may not be intuitively surprising therefore that these participants who rated these items more highly were those who persevered with the treatment programme. Although it must be remembered that this factor has lower internal reliability than the other factors of the PMI and so these scores should be interpreted with caution (Gudjonsson et al., 2007).

Surprisingly no other differences were seen on the Patient Motivation Inventory (PMI). Drieschner, Lammers, Van der Staak & Cees (2004) suggested that motivation is an important factor in programme completion and therefore, if this is the case, a significant difference between completers and non-completers would be expected. If motivation was important you would expect to see completers having higher scores on 'internal motivation' and lower scores on the 'lack of confidence' scales of the PMI. It has also been posited that persons who have an internal motivation are more likely to succeed in treatment (Melnick, DeLeon, Thomas, Kressel & Wexler, 2001) and so it is surprising to see that there were no differences between the two groups on the Locus of Control measure. The fact that there were no significant differences suggests there may be other factors mediating this, such as the pressure for treatment compliance in secure settings.

Data was not collected about the number of individuals who refused or failed to start the R&R2 programme. In future, it would be important to assess whether these participants differ significantly in any way from treatment completers and non-completers. This would inform future practice and research, for example, changes to participant selection or perhaps highlighting a need for motivational components to be completed prior to group-work

offending behaviour programmes. It has also been found that higher-risk offenders are less likely to complete programmes (Taxman & Thanner, 2006). So it would be interesting to assess whether other characteristics, such as: IQ and risk level (e.g. HCR-20 risk assessment), may affect completion rates for MDOs. Unfortunately in the present study there was not enough data available in the file information to be able to evaluate these factors.

Is the R&R2 programme effective?

The main objective of this study was to identify change in the key target areas of the programme, compared with controls, by examining the results of psychometric assessments administered pre- and post- group. As the primary aim of R&R2 is to reduce violent attitudes and behaviour, two key measures relating to these underlying aims were selected: the MVQ and DBSP. Analyses found significant differences on the Maudsley Violence Questionnaire (MVQ) on the *Machismo* scale, *Acceptance* scale and the *Total* score, with medium effects for the *Machismo* and *Total* scales. This suggests that the R&R2 programme was successful in bringing about change by reducing the level of antisocial thinking and behaviour. Also supportive of this was the finding that positive changes were seen for those in the treatment condition on the *Social and Psychological* and *Total* scales of the DBSP, an informant measure. These findings also replicate those of the Young et al. (2010) study giving support to the suggestion that the programme is successful in bringing about a positive change and reducing antisocial thinking and behaviour. Unfortunately the ‘Questionnaire of Antisocial and

Problematic Behaviour on the Ward' had poor reliability and highlights the need for more work to be done in this area to find a reliable tool for measuring problematic behaviours.

A change was expected on the *Disruptive Behaviour* scale of the DBSP, however, Young et al. (2003) believe that the tool may not be sensitive to the true level of disruptive behaviour on wards. Therefore this may account for lack of change. They also question the reliability of informant ratings because they rely on memory and may also be influenced by the member of staff's feelings for the participant. Something else that may impact upon the scales reliability is that the informants are extremely unlikely to be blind to the fact that the person is engaged in treatment and this may confound the results. In future it may be beneficial to collect records information (such as electronic patient logs) about disruptive behaviour which may be less biased.

It was expected that improvements would be seen on measures relating to other psychological processes. A significant positive change was found on the Rational Problem Solving scale of the SPSI-R:S, showing an improvement for those in the treatment condition, with a small effect size. This shows that those in the treatment condition rated more effective and adaptable techniques for problem solving post treatment compared to the control group. It was surprising that no changes were found on the *Impulsivity/ Carelessness* and *Avoidant* sub-scales; as these are areas that the R&R2 programme targets. Previous studies have found cognitive-skills programmes have reduced dysfunctional problem-solving strategies (Clarke et al., 2010; Donnelly & Scott, 1999, McMurran et al., 1999). It is not clear why the current

findings are not showing similar improvements and it may be that a larger sample is needed to establish group differences as measured by the SPSI-R:S; although the power calculation suggested the N size of the study is large enough to detect this change. It may be that other factors that have not been accounted for in the current research have an impact; for example whether participants had previous experience of a cognitive skills programme (other than ETS or R&R) was not recorded, nor was their level of impulsivity or risk, all of which have been shown to impact on clinical outcomes (Mak, 1991, McMurran et al., 1999).

The PAQ results were interesting as positive changes were seen for the control group, compared to the treatment group, on the *Cognitive* scale which seems counter-intuitive. This effect was small but suggests that there were factors, other than treatment, having an effect. Data was not collected about the other therapeutic activities that patients were engaged in and as patients remained under the care of a multi-disciplinary care team it may be that other interventions account for this difference. This may also be accounted for by patients shifting towards a more realistic appraisal of their functioning after having completed the programme; however, this would need to be further investigated.

Something else important to note is that there were differences found at baseline between the treatment and control groups. The control group had significantly more convictions leading to imprisonment than the treatment group. Also, those in the treatment group scored more highly on the *Impulsivity/ Carelessness* scale prior to treatment. The univariate analyses controlled for the differences on the outcome measures at Time 2 but this finding suggests that there may

be other potentially confounding variables that have not been taken account of in this research. The non-randomised design increases the chances of this; however Hollin (2008) suggests that quasi-experimental designs, such as the current study, are useful when investigating novel psychological interventions.

As previously stated, the current findings do not show some of the same improvements as found by efficacy studies of similar cognitive-skills programmes. What may explain this in part is the difference in the content and structure of the programmes themselves, alongside the differences in participant characteristics. When Clarke et al. (2010) publish detailed results of their efficacy study of R&R with MDOs it will be interesting to compare their outcomes with the current R&R2 study as it may be that in shortening the original programme there has been a loss of some of the beneficial and effective elements of the programme. For example, the repetitive elements of the original R&R course may help MDOs to consolidate information and undoubtedly there is a loss of opportunity for this in the R&R2 as the programme has been shorted by 20 sessions; though it could be argued that the extra 16 individual sessions participants receive may temper the effect of this and allow opportunity for repetition and reflection.

Interestingly a new study, investigating the R&R2 ADHD (Attention Deficit Hyperactivity Disorder) cognitive behavioural group treatment, found that significant and large treatment effects were found on the self-report measures at a three-month follow up. This suggests that participants in the group maintained these changes and that the treatment effect increased over

time (Emilsson, Gudjonsson, Sigurdsson, Baldursson, Einarsson, Olafsdottir & Young, in Press). This highlights the need for longer-term follow ups to investigate if changes are maintained and consolidated over time; although logistically this may prove difficult as patients may be transferred, discharged or their mental state may deteriorate.

In summary, the positive changes reported in antisocial thinking and behaviour are an indication that R&R2 may be of value in medium and low secure settings. The fact that these attitudinal changes were supported by informant ratings of behavioural change is also an important finding. However, clearly more work is needed to examine these findings more rigorously as change was not found at a significant level in other key variables measured. Changes in *Rational Proble*m solving were seen, which is an area that the programme aims to address and develop, however changes in *Impulsivity/ Carelessness* and on the *Avoidant* scale were not realised. However, social problem-solving skills are only one aspect of R&R2, as the overarching aim is to improve pro-social competence; i.e. to reduce antisocial attitudes and behaviour. The present study found these aspects significantly improved, with the largest effect sizes.

Limitations

First, the most obvious limitation of the study is the possibility of sampling bias impacting upon the results. The participants for the study were not randomly selected from the secure settings nor were they matched into pairs at baseline. Participants were instead referred by

their clinical teams and participation in the study was voluntary. This introduces bias in the sample and may have affected the outcome of the study. Participants were motivated to take part in the study and therefore may have been more motivated to complete the group work than if a random sample had been utilised. Also the group sizes included in the study were not equal as not all participants approached agreed to take part in the research; however this data was not collected and as a result cannot be analysed. The sample size is small, however the current sample size of N = 121 is sufficient to detect a significant change between time one and two with 80% power. Also several published studies have much smaller sample sizes (Jones & Hollin, 2004, N = 8; Laithwaite et al., 2007, N = 15; McMurran et al., 2001b, N = 4; McMurran et al., 2008, N = 60; Timmerman & Emmelkamp, 2005, N = 39).

Second, the patients in the sample were exclusively male and therefore the findings cannot be extrapolated to a female population. The collection of demographic data in the study was limited and it may have been that significant differences were not found because baseline information was overlooked. For example it may have been that IQ levels or number of previous admissions (McMurran et al., 2008) may be important factors in determining pre-group differences between completers and non-completers. Also self-esteem was not measured and this might be worth investigating further as low levels of self-esteem have been found to be related to poorer clinical outcomes (Laithwaite et al., 2007). The participant's level of impulsivity was also not controlled for and this may be important as a factor in dropout (Eysenck & McGurk, 1980; Mak, 1991). Also impression management may be important to assess as this could impact upon the participants responding, such as desirable

reporting (Gudjonsson & Moore, 2001). Data was also not collected pertaining to the person's previous experience of cognitive skills programmes, which could have a huge confounding effect on the results.

Third, limitations are evident in the selection of assessment measures. Five of the measures used in the study were self-report measures. These are inherently subjective and may be distorted by social desirability, poor insight or other symptoms associated with mental illness. Also because these are self-report measures the re-testing of patients could be influenced by complex motivations of the participants, for example they may wish to persuade people that they have improved in order to progress (Moore et al., 2000; Quayle & Moore, 1998). McMurran et al. (2001c) also suggest that complex skills, such as social-problem solving, may operate outside the awareness of the individual being assessed and therefore this would be problematic to measure via self-report methods; which may be why changes were not evident on the SPSI-R:S measure. The informants were not blind to the group member's progress (as they tended to be the patient's primary nurse) and may have guessed the purpose of the study. This may have impacted upon their recording and therefore affected the outcomes. Duncan et al. (2006) carried out a systematic review of group interventions with MDOs and highlighted the need for an agreement on common outcome measures (and suggested using the Social Problem Solving Inventory- Revised (SPSI-R) for problem-solving interventions). Therefore, a strength of the study is that data can be pooled with other studies carried out with the MDO population using this measure.

Fourth, something that was not calculated in the current study was the level of 'clinical change'. Clinical change would determine whether individual's scores on the outcome measures move from a dysfunctional range to a functional range (determining if participants are closer to the mean of the 'normal population' or the 'dysfunctional population'). This may have provided more information about what is shifting, if anything, for participants and may be a more reliable indicator of change (Evans, Marginson & Barkham, 1998), as pre-post psychometrics yield more limited information on whether the change is clinically significant.

The convention in behavioural sciences is to look at statistically significant change at the group level and to discuss this in terms of effect sizes; which aim to establish how generalisable the results are. This method was used in the current study as this is the most common form of analyses when establishing efficacy of group interventions and as this was investigating a novel psychological intervention this was considered to be the most appropriate level of analysis. Also this method allows data to be compared and analysed across similarly evaluated studies. However, establishing clinically significant change may provide more information about the practical use of the treatment programmes and so therefore there is an argument for using both statistically and clinically significance analyses in the future.

Finally, the process effects such as the conditions under which the groups were conducted and the length of the programme may have impacted upon the results. Although the group work is structured and facilitators were fully trained, the treatment setting is likely to have differed

between units and these differences may have confounded the results (Lipsey, 1995). Unfortunately there was no protocol in this study for checking the integrity of the programme at the different sites, in future it would be important to assess this and establish whether this had an impact upon efficacy. Another aspect to consider is whether the length of the R&R2 programme is appropriate. It may be that the treatment dosage is too small to effect change in some areas. Laithwaite et al. (2007) suggest that more prolonged intervention may be needed with this population. However it would be too soon to make any firm conclusions on the basis of the current study and changes were seen in the key target areas.

Future Directions

This evaluation study produced promising results regarding the efficacy of the R&R2 programme. The information presented provides a starting point for further development and investigation. An important area to assess in future is to assess the impact of the programme by carrying out a longer-term follow up to establish if there is any long-lasting change, as has been reported by the Emilson et al. (in press) study.

It has been posited that quasi-experimental designs are useful for preliminary evaluations (Hollin, 2008), however, a randomised control design (RCT) would also reduce the potential for confounding variables. RCTs have been successfully carried out in this population (for example, Clarke et al., 2011; although full results have not yet been published) and in the future an RCT design may prove to be a more stringent research design.

Other areas for investigation have been suggested throughout the discussion, and to summarise, useful future directions may be: (1) to carry out qualititative research looking at factors playing a role in treatment retention; (2) longer-term it may be helpful to consider reconviction rates for programme completers and non-completers; although this may prove difficult; (3) consideration of other factors such as IQ, self-esteem, risk level, as well as impulsivity should be incorporated as it has been suggested that these may have an impact upon programme completion; (4) it is important to develop a more reliable informant measure of behavioural change in order that self-report measures can be considered alongside in the light of these results; (5) careful selection of assessment measures should be considered in order that data can be pooled and compared across studies; (6) an important factor to monitor is the programme integrity as it may be that this varies across sites and has a significant impact upon the programme efficacy; (7) investigation with other populations such as females and those with learning disability to establish if this shorter, more responsive, programme is effective for these subgroups; (8) finally, it may be helpful for future research to include interviews with participants in order to further understand reasons for completion or non-completion of the R&R2 programme. Following on from this evaluation more stringent sampling should be considered, such as in a randomised control trial (RCT).

Conclusions

Research in secure hospitals is both challenging and difficult. However, despite the limitations of this study, there is support for the R&R2 programme and these findings suggest that the R&R2

can be delivered successfully in medium and low secure settings. A strength of the design of this study was the multisite collaboration. The development of professional networks helped to improve the sample sizes; which traditionally can be a large limitation in this research area.

It is important to further evaluate this programme as overall there are positive findings, particularly the high completion rate. Huband et al. (2007) suggested that short programmes were unlikely to show significant and enduring changes, however this study shows that there are that there are significant changes in antisocial attitudes and behaviours for group completers. Significant differences were found on the primary outcome measures for group completers, suggesting the R&R2 programme has a positive effect on addressing antisocial attitudes. The R&R2 programme adjusted the number of session and altered programme components to accommodate the abilities of an MDO population and it is perhaps because of this responsivity that completion rates are so high. What needs to be investigated is whether these changes are maintained longer-term.

The programme is in its infancy and there therefore needs to be further investigation in order to fully evaluate its efficacy and to develop our understanding of treatments for mentally disordered offenders. The preliminary research suggests this is a worthwhile endeavour. Overall, the current study suggests that the R&R2 may be successful as part of a multifaceted intervention programme and, given the low drop-out rate, retention in the programme may encourage participants to engage in other treatment programmes (Gudjonsson & Young, 2007). This has important implications in assisting policy makers and practitioners to make decisions about

management and treatment of MDOs. Given the 'payment by results' directive from the Government establishing the feasibility and efficacy of cognitive interventions is paramount. It would seem that the R&R2 is effective and as it is a shorter programme than the original R&R it may be more cost-effective in terms of staff time and other resources.

The current chapter explored the effectiveness of the R&R2, a newly developed programme designed specifically for MDOs. Comparing evidence from a multisite sample the research explored the utility and efficacy of this programme using self-report, informant rated and records information. Research found a high completion rate and positive changes in antisocial thinking and behaviour, for those in the treatment group compared with controls. These attitudinal changes were also supported by informant ratings of behavioural change. Taken together the results indicate that the R&R2 may be of value in medium and low secure settings. More work is needed to examine these findings more rigorously as change was not found at a significant level in other key variables measured; as well as to overcome other highlighted study limitations. The final chapter links together the findings from the previous chapters and discusses these in relation to future research. Specifically this chapter looks at these in connection with the development of future intervention programmes.

Chapter 5

Discussion

Aim of Thesis

As the empirical evidence base for working effectively with mentally disordered offenders (MDOs) is limited, this thesis aimed to establish the utility of assessment tools and structured group work programmes with MDOs. Below, each chapter is briefly discussed and the findings are summarised. All chapters contribute to the development of research and have added to the literature in this area.

Summary of Findings

The introduction outlined the literature in relation to MDOs. In particular the chapter discussed the complexities of MDOs and described the difficulties associated with working with such a heterogeneous group. The focus was primarily on the existing evidence base of 'what works' with this population. Overall the chapter set the scene for the remaining chapters and highlighted the importance of further research and investigation into the utility of assessment and intervention tools with MDOs.

Chapter 2 is a systematic literature review examining the evidence base for the effectiveness for cognitive-behavioural offending behaviour group treatments with MDOs. Several research

questions were investigated in relation to this aim: 1) establishing what evidence there is for the effectiveness of offending behaviour group treatments with MDOs 2) assessing the long-term treatment outcomes for MDOs attending offending behaviour group programmes 3) seeing what differences, if any, there were between outcomes for MDOs and comparison groups 4) and finding out if there were differences between methods of evaluating offending behaviour programmes. The final objective of the review was to make suggestions for the future design of evaluations of offending behaviour groups with MDO populations.

Eighteen studies were included for discussion in the review and all programmes assessed were carried out in inpatient hospital settings; the majority of which were in the UK. Programmes fell into three main categories: problem-solving skills; anger management and relapse prevention. Dramatic variances were seen in the sample sizes (ranging from N = 4 to N = 83); the programme durations (ranging from six sessions to six years) as well as the quality level of the study and the methodology used (with few employing a control comparison group). The lack of comparable data meant that the studies could not be combined for statistical analysis which limits the extent to which firm conclusions can be drawn from the review.

Whether positive changes are maintained longer-term for programme completers is not clear from this review as this was only assessed in one study. Other limitations were that there were differences in the definition of MDOs, with some studies including personality disorder and others using this as an exclusion criterion. There was a wide number of assessment tools used in the studies, with the majority being self-report measures. This highlighted a need for more

of a consensus in this area of research and the importance of carefully selecting assessments that are sensitive and reliable enough to investigate the psychological constructs being targeted by the programme.

The findings suggest there is evidence for positive results for MDOs undertaking cognitive-behavioural programmes. What is highlighted throughout the review is that there are important areas for development. In particular it is suggested a control group is vital to establish more robustly the efficacy of the intervention being studied; that a variety of outcome measures should be used to establish the programme efficacy (from: the offenders self-report as well as staff observations and from records information); that a longer-term follow up is used to see if changes are maintained over time and that there needs to be clarity in the reporting of methodology and findings from research. Due to the heterogeneous nature of the population research in this area has its difficulties, however this makes it even more important that research is more rigorous and of high quality.

Chapter 3 examined the Social Problem-Solving Inventory-Revised (SPSI-R). This self-report assessment tool measures a person's ability to solve problems that occur in everyday life. The five-dimensions arose from factor-analysis and studies have shown the measure to be valid and reliable for use in research and clinical assessment. The tool has been shown to have high levels of internal consistency (ranging from 0.69 to 0.95) and test-retest reliability (ranging from 0.68 to 0.91). The tool is the only assessment investigating social problem-solving that is underpinned by a theoretical model and the comprehensive technical manual allows for

standardised administration. Also studies show the results of the SPSI-R to be meaningful and useful in research.

The samples used in the initial validation research and which were used for the factor analyses were taken from university samples. This raised the question of how generalisable the findings are to a clinical population. Also the SPSI-R is lacking cross-validation across a number of larger population sample sizes. Self-report measures are seen to be important as they are a manageable way to collect data about a person, however it is suggested that a direction for future research is to combine observation, self-report and informant reports in order to overcome the difficulties that are associated with self-report measures.

The measure offers a way to assess changes in problem-solving ability; which is an area often targeted in offending behaviour programmes. These programmes aim to change maladaptive patterns and the SPSI-R allows researchers and clinicians to evaluate if any changes are evident and allows for this data to be pooled and compared across studies. This process tool has been used widely as an outcome measure in group work evaluations and more recently with an MDO population. However, researchers need to bear in mind that 'forensic' and 'psychiatric' samples tend to score in a more dysfunctional way than a 'normal' sample and this therefore needs to be borne in mind when interpreting data. A larger sample needs to be analysed in order to establish norms for the MDO population.

Chapter 4 details a study aimed at evaluating the effectiveness of the Reasoning and Rehabilitation 2 programme which was newly developed for the MDO population. The study investigated specific research questions looking at the programmes success at retaining group members; whether or not completers and non-completers varied in any way as well as whether changes in key target areas were seen.

A strength of the study was the multisite sample of medium and low secure units and that a control group was used for comparison. Results showed a very high group completion rate. In looking at the target areas for change, decreases were seen in antisocial attitudes and behaviours for the treatment group (on both self-report and informant measures) compared to controls. Positive differences were also seen in rational problem solving for those in the group condition. However, results were mixed as counter-intuitively decreases were seen on the Cognitive scale of the PAQ and other assessments showed no other significant differences.

The research study suggests that the R&R2 can be delivered successfully in a variety of medium and low secure settings and is somewhat effective in reducing antisocial attitudes and beliefs. The low drop-out rate and responsivity of the programme has important implications in assisting policy makers and practitioners to make decisions about management and treatment of mentally disordered offenders as well as allocation of funding and resources. It is suggested that the programme may be successful as part of a multifaceted intervention programme.

Theoretical Implications

Researchers have shown that the main predictors of recidivism are the same for a range of offenders, including MDOs (Bonta et al., 1998), and therefore interventions were believed to be transferable for a wide range of offenders. The assumption was that, as the reasons leading to offending were the same and the same criminogenic needs had to be targeted in interventions, that a cost-effective way to do this was to develop group-work programmes (*The Sainsbury Centre for Mental Heath*, 2008).

The current findings support the use of cognitive-behavioural techniques and skills training with MDOs, echoing earlier research, as well as the need to develop and evaluate novel interventions. The results from the R&R2 study suggest there are benefits in programmes being developed with the responsivity principle (Andrews & Bonta, 2006) in mind. Making adaptations to the original R&R programme, such as making the programme less intensive, for offenders with mental health difficulties appears to improve completion rates. What is not evaluated in the current findings is the impact the programme has upon recidivism. Also, due to methodological and statistical limitations, no firm conclusions can be drawn about attitudinal or behavioural changes.

A number of suggestions were made, following the systematic review, for ways to improve efficacy research in this area. The review highlighted the need to use a control group for comparison as well as the importance of giving detailed information about methodology and

structure of the group work programme being investigated. The literature also showed the need for agreement upon the selection of assessment and outcome measures to investigate change in the psychological constructs targeted by intervention programmes; having this consensus would also allow for research to be combined and findings compared more easily.

Practical Implications

The issue of treatment of MDOs has been problematic for practitioners due to the complex needs they present with (Blackburn, 2004). As is the case with all offenders, practitioners need to balance risk management alongside rehabilitation needs. In order to do this they need to take into account the individual needs of the offender. The current findings suggest important implications for the selection of assessment measures with MDOs. It is suggested that self-report measures be combined with a wider range of information, such as records information and ratings from informers. Also highlighted is the need for outcome measures to be carefully selected so that they can be feasibly and practically implemented, for example sentence structure needs to be simple as some MDOs have executive functioning deficits (Young & Ross, 2007). Lengthy batteries would also appear to be unhelpful as MDOs typically struggle with concentration.

Improving responsivity suggests that some of the difficulties of engagement can be overcome. Improving access for MDOs means that there is more potential for them to benefit from the content of the programmes, especially when this is developed with their specific needs in

mind. Some authors note the advantages that could be gained from combining many different interventions (Gudjonsson & Young, 2007); the idea being that integrated programmes would address both personal development, as well as needs for accommodation, independent living skills employment and education, and drug use. Gudjonsson and Young (2007) suggest the focus should be on: treating and managing the mental illness; addressing criminogenic needs; improving pro-social and independent living skills alongside ensuring successful re-integration into a less secure environment (i.e. moving into the community). Such a multi-disciplinary, multi-modal, integrated treatment approach would require good co-ordination between the relevant services but may be the most effective way to address the varying treatment needs of the MDO population.

Limitations of Thesis

The current research has a number of limitations and these have been highlighted within each chapter. It is important to bear these in mind when looking at the conclusions. The systematic review highlighted the heterogeneous nature of interventions and assessment techniques used with MDOs as well as the differences in the definition of MDOs. This makes it difficult to draw firm conclusions as results could not be combined for analyses. The benefit of carrying out this review was that a number of areas for improvement were highlighted which could then be incorporated in the design of the programme evaluation; such as the use of a control group and the use of a variety of types of outcome measures.

This thesis concentrates on critiquing only one of the psychometric measures used in the research. The SPSI-R is a self-report measure that has been shown to be reliable and valid with a forensic mental health population, however the use of a small sample in the validation limits the generalisability of the findings. Ideally each measure selected for use in research would be subject to this level of scrutiny and although only one of the psychometric measures was critiqued this allows ample opportunity for the discussion of a number of issues relevant to a wide range of assessment tools.

The current research investigates only one structured group work programme. The programme selected for evaluation focuses on cognitive-behavioural approaches and it may be that other approaches have benefits that would increase positive results (e.g. mentalisation based approaches with personality disordered offenders; Bateman & Fonagy, 2004). It may also be that different psychological approaches need to be combined to produce the best results.

Due to the limitations of the research study, previously described, drawing conclusions from the current findings should be done with caution. It is especially important to remember that the long-term outcomes of the programme are not yet known and that the impact upon recidivism has not been assessed. The main drawback of the current work is that it solely investigates the assessment and treatment of male offenders and does not take into account other groups, such as learning disability or female offenders with mental health problems.

Future Research

As yet there is no single treatment that has been shown to be most effective for MDOs. This is perhaps more reflective of the complex needs of this client group and the developing knowledge base, which the current findings add to. There is a paucity of research in this area and much of the research that has been carried out is exploratory, has been conducted with male offenders and has used quantitative methodological techniques. In future it may be beneficial to carry out qualitative investigation and to incorporate a more robust research methodology such as a randomised controlled trial. Alongside this, more reliability and validity studies need to be carried out on assessments used with MDOs and the field may benefit from data being combined between studies into a meta-analytic analysis.

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Young, S., Chick, K. and Gudjonsson, G. (2010). A preliminary evaluation of reasoning and rehabilitation 2 in mentally disordered offenders (R&R2M) across two secure forensic settings in the United Kingdom. *Journal of Forensic Psychiatry & Psychology*, 21, 336-349.

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Young, S.J., & Ross, R.R. (2007). *R&R2 for youths and adults with mental health problems: A prosocial competence training program.* Ottawa, ON: Cognitive Centre of Canada.

Appendices

Appendix 1:

Search Syntax Terms for OVID database searches.

1
mentally ill offender$.mp. or exp Mentally Ill Offenders/
122 Advanced

2
cognitive therapy.mp. or exp Cognitive Therapy/
16980 Advanced

3
exp Cognitive Behavior Therapy/
16790 Advanced

4
group psychotherapy.mp. or exp Group Psychotherapy/
7814 Advanced

5
group work.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name]
430 Advanced

6
problem solving.mp. or exp Problem Solving/
11268 Advanced

7
social skills training.mp. or exp Social Skills Training/
35455 Advanced

8
offending behaviour programme$.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name]
8 Advanced

9
(reasoning and rehabilitation).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name]
107 Advanced

10
enhanced thinking skills.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name]
2 Advanced

11
anger management.mp. or exp Anger Control/
178 Advanced

12
6 or 3 or 7 or 8 or 2 or 10 or 4 or 11 or 9 or 5
68594 Advanced

13
1 and 12
7 Advanced

Appendix 2:

Quality Assessment Form

Quality Assessment Criteria: Experimental Studies

Study:

Question	Y	N	U	Comments
Screening questions				
Is there a clear classification of patient's mental disorder?				
Is there a clear description of the structured group-work intervention?				
Does the study clearly describe the outcome measures?				
Selection bias				
Was the study procedure concealed to the person who recruited and allocated participants?				
Was the assignment to the groups random?				
Is the description of the groups and distribution of demographic/ background factors clear? (E.g. Are diagnosis and offence type recorded?)				
Were the groups similar at baseline in terms of demographic/ background factors (representative sample)?				
Have the authors identified all important confounding factors?				
Were the groups comparable in all important confounding variables? (If not was there any control/ adjustment for the effects of any of these confounding variables?)				
Was the eligibility criteria for participants specified?				
Is the description of the group's content clear and comprehensive?				
Performance and detection bias				
Were the outcome assessors blind?				
Was the outcome assessed in the same way across groups?				
Were the outcome assessment instruments standardised?				
Was the outcome measure validated?				
Were the assessment instruments comparable to instruments used in other studies?				
Attribution bias				
Were those who withdrew from the study halfway the same as those who completed the study?				
Were the missing values dealt with?				
Were drop-out rates and reasons for drop-out similar across groups?				
Was the follow-up long enough for the outcomes to occur?				
Were those who could not be found the same as those who were found for follow up?				
Results				
How precise are the results of the study? (The results could not be due to bias, chance or confounding.)				

Are the design and methods of this study reliable? (And not sufficiently flawed to make the results unreliable?)				
Do the results of this study fit with other available evidence?				
Column totals				
Total Score: **Percentage of criteria the study fulfils:**				

Appendix 3:

Data Extraction Form

Data Extraction Form

Date of data extraction:

Author:

Article title:

Source:

Reviewer identification:

Re-verification of study eligibility:

Population	Male	Y	N	?
	Aged 18-65	Y	N	?
	Mentally disordered offenders	Y	N	?
Intervention	Structured group offending behaviour programme	Y	N	?
	Based on a cognitive or cognitive-behavioural approach	Y	N	?
Comparison/Control	No group therapy	Y	N	?
	Non-offending participants without a mental health diagnosis	Y	Y	?
	Offenders without mental health diagnosis	Y	Y	?
Outcome	Pre/post treatment change	Y	N	?
	Short term effects on antisocial and offending behaviour	Y	N	?
	Long-term effects on antisocial and offending behaviour	Y	N	?
	Factors associated with outcome	Y	N	?
	Effect on problem-solving ability	Y	N	?
Study design	Experimental	Y	N	?
	Quasi-experimental	Y	N	?
	Observational (i.e. cohort, case control or cross-sectional)	Y	N	?
Continue		Y	N	?

Specific information

Population characteristics:

1. Target population (describe):
2. Inclusion criteria:
3. Exclusion criteria:
4. Recruitment procedures used:
5. Characteristics of participants:
    - Age
    - Ethnicity
    - Gender
    - Mental health diagnosis
    - Offence
    - Other information
6. Number of participants in each group:

Methodology of the study:

1. Design of the study and data collection
2. Blinding and debriefing
3. Quality assessment

Programme characteristics:

1. Type of programme
2. Number of conditions (including control conditions)

3. Theoretical model
4. Setting
5. Duration of group
6. Outcome measured

Outcome measures:

1. What was measured at baseline?
2. What was measured after exposure and at the follow up period (if applicable)?
3. Who carried out the assessment? (Where they blinded?)
4. What assessment or measurement tool was used?
5. If a tool was used how was it validated?
6. How was the validity of self-reported behaviour maximised?
7. What were the follow-up periods and/or time intervals?
8. How many participants were lost to follow up and for what reasons?
9. Limitations:
10. Other information:

Analyses:

1. Statistical tests used:
2. Were confounding variables assessed?
3. Number of participants followed up:
4. Any missing data:
5. Overall study quality:

Good Reasonable Poor

6. Limitations
7. Results
8. Any qualitative results?

Appendix 4:

Studies Excluded from Systematic Review

References of excluded studies	**Reason for exclusion**
Appleby, L. & Joseph, P. (1991) Management of personality disorder. *International Review of Psychiatry*, 3, 59-70.	Discussion paper
Ashford, J.B.; Sternbach, K.O.; Balaam, M.F. & Andrade, J.T. (Ed). (2009) *Treatment and management of violence and criminal risk among mentally ill offenders.* Handbook of violence risk assessment and treatment: New approaches for mental health professionals, 291-310, 656. New York, NY, US: Springer Publishing Co.	Book Chapter
Baker, L. (1995) Training mentally ill offenders in problem-solving. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 56 (1-B), 0515.	Only abstract available.
Bateman, A. (1996) Day hospital treatment for borderline patients. In Cordess, C. (Ed); Cox, M. (Ed). Forensic psychotherapy: Crime, psychodynamics and the offender patient, Vol. 2: Mainly practice. 393-399, 715. London, England: Jessica Kingsley Publishers.	Book Chapter
Beail, N. (2009) Review of The treatment of sex offenders with developmental disabilities: A practice workbook. *Advances in Mental Health and Learning Disabilities*, 3, 57.	Population Characteristics
Benedetto, R.D. (1991) Will a medical/social intervention program supervising and teaching severely mentally ill criminal offenders social skills in survival significantly reduce institutionalization and criminalization of these clients without undermining public safety. *Dissertation Abstracts International*, 51 (10-B), 4771.	Only abstract available.
Bloom J.D.; Bradford McD. J. & Kofoed L. (1988) An overview of psychiatric treatment approaches to three offender groups. *Hospital and Community Psychiatry*, 39, 151-158.	Discussion paper
de Boer-van Schaik, J & Derks, F. (2010) *The Van der Hoeven Clinic: A flexible and innovative forensic psychiatric hospital based on therapeutic community principles.* In Shuker, R. & Sullivan, E. Grendon and the emergence of forensic therapeutic communities: Developments in research and practice, 115-136, 333. Wiley-Blackwell.	Book Chapter

References of excluded studies	Reason for exclusion
Brett, T.R. (1992) The Woodstock approach: One ward in Broadmoor Hospital for the treatment of personality disorder. Criminal Behaviour and Mental Health, 2, 152-158.	Study Design
Camblin, L.M.; Stone, W.N. & Merritt, L.C. (1990) An adaptive approach to group therapy for the chronic patient. *Social Work with Groups*, 13, 53-65.	Unable to access journal article
Cloyes, K.G. (2007) Challenges in Residential Treatment for Prisoners With Mental Illness: A Follow-up Report. *Archives of Psychiatric Nursing*. 21 (4), 192-200	This is a follow up paper that does not focus on group member outcomes and uses qualitative methods.
Corrigan, P.W. (1991) Social skills training in adult psychiatric populations: A meta-analysis. *Journal of Behavior Therapy and Experimental Psychiatry*. 22 (3), 203-210.	Meta-analysis
Cullen, A.E., Soria, C., Clarke, A. Y., Dean, K., & Fahy, T. (2011). Factors predicting dropout from the reasoning and rehabilitation program with mentally disordered offenders. *Criminal Justice and Behavior*, 38, 217-230.	Outcome measures- only reviews dropout.
De Leon, G.; Sacks, S.; Wexler, H.K. Leukefeld, C.G (Ed); Tims, F. (Ed); Farabee, D. (Ed). (2002) Modified prison therapeutic communities for the dual- and multiple-diagnosed offender. *Treatment of drug offenders: Policies and issues. 138-148, 453.* New York, NY, US: Springer Publishing Co.	Book Chapter
Duckworth, J.; Hughes, G.; Landsberg, G. & Smiley, A. (Ed). (2001) *Multidisciplinary group work with mentally ill sex offenders in a mental health environment*. Forensic mental health: Working with offenders with mental illness, 17-1 - 17-15, 47-9. Kingston, NJ, US: Civic Research Institute.	Book Chapter
Duggan C. & Khalifa N. (2007) Community treatment for offenders with personality disorder. *Psychiatry*, 6, 470-473.	Discussion paper

References of excluded studies	Reason for exclusion
Duncan, E.A.; Nicol, M.M.; Ager, A. & Dalgleisch, L.A. (2006) A systematic review of structured group interventions with mentally disordered offenders. *Criminal Behaviour and Mental Health*, 16, 217-241.	Review
Fleck, D.; Thompson, C.L & Narroway, L. (2001) Implementation of the problem solving skills training programme in a medium secure unit. *Criminal Behaviour and Mental Health*, 11, 262-272.	Pre-group measures carried out but the post-group measures are not reported.
Fortune, Z; Rose, D; Crawford, M; Slade, M; Spence, R; Mudd, D; Barrett, B; Coid, J. W.; Tyrer, P & Moran, P. (2010) An evaluation of new services for personality-disordered offenders: Staff and service user perspectives. *International Journal of Social Psychiatry*, 56, 186-195.	Study Design
Goold, P & Kirchhoff, E. (1998) Personal construing, fuzzy logic and group psychotherapy amongst men with schizophrenia in Broadmoor Hospital: An illustrative case study. Criminal Behaviour and Mental Health, 8 (Suppl), 51-65.	Study Design
Hakvoort, L. (2002) A music therapy program for forensic offenders. *Music Therapy Perspectives*, 20, 123-132.	Therapy type
Harris, G.T.; Rice, M.E & Cormier, C.A. (1994) Psychopaths: Is a therapeutic community therapeutic? *Therapeutic Communities*, 15, 283-299.	Therapy type
Hawes, V. (2010) *Treating high-risk mentally disordered offenders: The dangerous and severe personality disorder initiative.* In Bartlett, A & McGauley, G (Eds) Forensic mental health: Concepts, systems, and practice, 215-234. New York, NY, US: Oxford University Press; US.	Book Chapter
Hibbs, A. (2000) Cognitive therapy: A complementary strategy for expressed anger during the restraint of an aggressive individual. British Journal of Forensic Practice, 2, 19-29.	Therapy type
Hilton, N. & Frankel, A. (2003) Therapeutic value of anger management programmes in a forensic setting. *British Journal of Forensic Practice*, 5, 8-15.	Unable to access journal article

References of excluded studies	**Reason for exclusion**
Hoffmann K. & Kluttig T. (2006) Psychoanalytic and group-analytic perspectives in forensic psychotherapy. *Group Analysis*, 39, 9-23.	Discussion paper and Therapy type
Hodgins, S; Carlin, P; Moorhouse, R; Legge, K & Khalid, F. (2011) Reducing antisocial behaviour among patients with severe mental illness living in the community: A feasibility study of the Reasoning and Rehabilitation Programme. *Criminal Behaviour and Mental Health*, 21, 75-76.	Letter to Editor- Study Design
Hollin, C.R. (1999) Treatment Programs for Offenders: Meta-Analysis, "What Works," and Beyond. *International Journal of Law and Psychiatry*, 22, 361-372.	Meta-analysis
Hornsveld, R.H.J. & Nijman, H.L.I. (2005) Evaluation of a cognitive-behavioral program for chronically psychotic forensic inpatients. International Journal of Law and Psychiatry, 28, 246-254.	Quality assessment too low: 48%
Hornsveld, R.H.J; Nijman, H.L.I.; Hollin, C.R.; & Kraaimaat, F.W. (2008) Aggression control therapy for violent forensic psychiatric patients - Method and clinical practice. *Interntational Journal of Offender Therapy and Comparative Criminology*, 52, 222-233.	Quality assessment too low: 38%
Hughes, G.; Hogue, T.; Hollin, C. & Champion, H. (1997) First-stage evaluation of a treatment programme for personality disordered offenders. *Journal of Forensic Psychiatry & Psychology*, 8, 515 – 527.	Quality assessment too low: 37%
Jennings, L.; Harris, B.; Gregoire, J.; Merrin, J.; Peyton, J. & Bray, L. (2002) The effect of a psychoeducational programme on knowledge of illness: insight and attitudes towards medication. *British Journal of Forensic Practice*, 4, 3–10.	Therapy type
Jones, E.J. & McColl, M.A. (1991) Development and evaluation of an interactional lifeskills group for offenders. *Occupational Therapy Journal of Research*, 11, 93–105.	Therapy type
Kunz, M.; Yates, K.F.; Czobor, P.; Rabinowitz, S.; Lindenmayer, J-P.; Volavka, J. (2004) Course of patients with histories of aggression and crime after discharge from a cognitive-behavioral program. Psychiatric Services, 55, 654-659.	Female patients included and could not be distinguished

References of excluded studies	Reason for exclusion
	from male patients.
Landsberg, G. & Smiley, A. (Ed). (2001) Forensic mental health: Working with offenders with mental illness, 47-9. Kingston, NJ, US: Civic Research Institute.	Book
Lindsay, W.R. (2009) The treatment of sex offenders with developmental disabilities: A practice workbook, 343 Wiley-Blackwell.	Book Chapter
Lindsay, W. R.; Hamilton, C.; Moulton, S.; Scott, S.; Doyle, M. & McMurran, M. (2011) Assessment and treatment of social problem solving in offenders with intellectual disability. *Psychology, Crime & Law*, 17, 181-197.	Population characteristics
MacKain, S.J & Streveler, A. (1990) Social and independent living skills for psychiatric patients in a prison setting: Innovations and challenges. *Behavior Modification*. 14, 490-518.	Discussion paper
McCann, R.A.; Ivanoff, A.; Schmidt, H.; Beach, B. & Dimeff, L A & Koerner, Kelly (Ed). (2007) *Implementing dialectical behavior therapy in residential forensic settings with adults and juveniles.* Dialectical behavior therapy in clinical practice: Applications across disorders and settings. 112-144, 363. New York, NY, US: Guilford Press.	Book Chapter
McGauley, G. (2010) *Introduction: Forensic psychotherapeutic approaches and the mentally disordered offender.* In Bartlett, A & McGauley, G (Eds) Forensic mental health: Concepts, systems, and practice, 129-130. New York, NY, US: Oxford University Press; US.	Book Chapter
McGuire, J. (2000) *Problem-solving training: pilot work with secure hospital patients*. In Mercer, D.; McKeown, M.; McGuire, J. (Eds) Forensic Mental Health Care: A Case Study Approach. Edinburgh: Churchill Livingstone.	Book Chapter
McMurran, M.; Egan, V.; Duggan, C. & McGuire, J. (Ed). (2005) *Stop & Think! Social Problem-Solving Therapy with Personality-Disordered Offenders.* Social problem solving and offending: Evidence, evaluation and evolution. 207-220, 315. New York, NY, US: John Wiley & Sons Ltd.	Book Chapter
Mercer, M.; Gordon, J. & Kirtchuk, G. (Ed) (2008) *Bearable or unbearable? Unconscious communication in management.* Psychic assaults and frightened	Book Chapter

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clinicians: Countertransference in forensic settings. 63-83, 152. London, England: Karnac Books.	
Meurer, H. (2005) Collective exposure: From art in therapy to the art of therapy. PTT: Personlichkeitsstorungen theorie und Therapie, 9, 51-54.	Therapy type and population characteristics.
Moore, E.; Manners, A.; Lee, J.; Quayle, M. & Wilkinson, E. (2000) Trauma in the family: Groupwork on family awareness for men in high security hospital. *Criminal Behaviour and Mental Health,* 10, 42-255.	Quality assessment too low: 41%
Morrison-Dyke, D.F. (1996) Interpersonal cognitive problem-solving skills and severity of criminal behavior among homeless mentally disordered criminal offenders. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. 56 (8-B), 4589.	Only abstract available.
Norton, K. (1992) Personality disordered individuals: The Henderson Hospital model of treatment. *Criminal Behaviour and Mental Health,* 2, 180-191.	Discussion paper
Novaco, R.W. (1997) Remediating anger and aggression with violent offenders. *Legal and Criminological Psychology,* 2, 77-88.	Review
O'Connor, W. (1996) A problem-solving intervention for sex offenders with an intellectual disability. *Journal of Intellectual & Developmental Disability*, 21, 219-235.	Patient characteristics
Oktay, D. (2010) Louder than words: Dance/movement therapy groups with men on an inpatient forensic unit. PsycINFO, 34, 7-20.	Only abstract available and study design.
Perkins, D. (2010) *Cognitive approaches to working with mentally disordered offenders.* In Bartlett, A & McGauley, G (Eds) Forensic mental health: Concepts, systems, and practice, 201-214. New York, NY, US: Oxford University Press; US.	Book Chapter
Pollock, P. & Belshaw, T. (1998) Cognitive analytic therapy for offenders. *Journal of Forensic Psychiatry*, 9, 629-642.	Study Design
Rice, M.E. & Harris, G.T. (1997) The Treatment of Mentally Disordered	Discussion

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Offenders. *Psychology, Public Policy, and Law*, 3, 126-183.	paper
Rice, M.E. & Quinsey, V.L. (1980) Assessment and training of social competence in dangerous psychiatric patients. International Journal of Law and Psychiatry, 3, 371-390.	Discussion paper
Rice, M.E; Harris, G.T. & Cormier, C.A. (1992) An evaluation of a maximum security therapeutic community for psychopaths and other mentally disordered offenders. *Law and Human Behavior*, 16, 399-412.	Therapeutic community rather than a distinct cognitive-behavioual offending behaviour programme is assessed.
Ryba, N.L. (2008) Cognitive-behavioural therapy for offender hopelessness: Lessons from treatment of forensic inpatients. *Journal of Contemporary Psychotherapy*, 38, 73-80.	Case studies are used for discussion and not whole group outcomes.
Sacks, J.Y; McKendrick, K.; Hamilton, Z.;Cleland, C.M.; Pearson, F.S. & Banks, S. (2008) Treatment outcomes for female offenders: Relationship to number of axis I disorders. *Behavioral Sciences & the Law*, 26, 413-434.	Patient characteristics
Sacks, S.; Sacks, JA.Y; McKendrick, K.; Banks, S. & Stommel, J. (2004) Modified TC for MICA Offenders: Crime Outcomes. *Behavioral Sciences & the Law*, 22, 477-501.	No clear description of groupwork intervention.
Sarra, N. Connection and disconnection in the art therapy group: Working with forensic patients in acute states on a locked ward. Skaife, S. & Huet, V. (Ed). (1998). Art psychotherapy groups: Between pictures and words. 69-87, 209. Florence, KY, US: Taylor & Frances/Routledge.	Book
Schanda, H.; Felsberger, C.; Topf, R.; Lenhart, P. & Steiner, S. (1992) The	Only abstract

References of excluded studies	Reason for exclusion
integrated psychological therapy program for schizophrenic-patients (IPT) in mentally-ill offenders. Neuropsychiatrie, 6, 21-28.	available, paper published in German language.
Schonhage, E. & Schazmannm, W. (1983) Therapy of sexual delinquents in a psychiatric-hospital. Psychiatrische Praxis, 10, 93-96.	Language
Scott, E.M. (1993) History and treatment efforts for a prison special management unit: III. Prison group therapy with mentally and emotionally disturbed offenders. *International Journal of Offender Therapy and Comparative Criminology*, 37, 131-145.	Discussion paper
Shine, J. (2010) *Towards a social analytical therapy*. In Shuker, R. & Sullivan, E. Grendon and the emergence of forensic therapeutic communities: Developments in research and practice, 115-136, 333. Wiley-Blackwell.	Book Chapter
Shuker, R. (2010) *Personality disorder: Using therapeutic communities as an integrative approach to address risk.* In Shuker, R. & Sullivan, E. Grendon and the emergence of forensic therapeutic communities: Developments in research and practice, 115-136, 333. Wiley-Blackwell.	Book Chapter
Simon, L.M.J. (1998) Does criminal offender treatment work? *Applied and Preventive Psychology*, 7, 137-159.	Review
Smeijsters H. & Cleven, G. (2006) The treatment of aggression using arts therapies in forensic psychiatry: Results of a qualitative inquiry. *The Arts in Psychotherapy*, 33, 37-58.	Therapy type
Stein, E. & Brown, J.D. (1991) Group therapy in a forensic setting. *The Canadian Journal of Psychiatry / La Revue canadienne de psychiatrie*, 36, 718-722.	Study Design
Sullivan, C.J.; Sacks, S.; McKendrick, K.; Banks, S.; Sacks, J.Y. & Stommel, J. (2007) Modified therapeutic community treatment for offenders with co-occurring disorders: Mental health outcomes. *Journal of Offender Rehabilitation*. 45, 227-247.	Therapy type
Taylor, J.L; Novaco, R.W.; Gillmer, B.T.; Robertson, A. & Thorne, I. (2005) Individual cognitive-behavioural anger treatment for people with mild-	Individual treatment

References of excluded studies	Reason for exclusion
borderline intellectual disabilities and histories of aggression: A controlled trial. British Journal of Clinical Psychology, 44, 367-382.	programme. (Not group)
Tennant, G. & Hughes, G. (1998) 'Men talking' about dysfunctional masculinity: an innovative approach to working with aggressive, personality disordered offender- patients. Psychiatric Care, 5, 92-99.	Therapy type
Van S., Kit R.; Blumer, C. & Moberg, D.P. (2004) Treatment Retention of Dually Diagnosed Offenders In An Institutional Therapeutic Community. *Behavioral Sciences & the Law*, 22, 585-597.	Therapy type
Voutsinas, G. (2002) A community corrections center for mentally ill federal offenders: A program design. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. 63 (5-B), 2611.	Program description rather than evaluation. Only Abstract available.
Wack, R.C. (1993) Forensic treatment in the United States: A survey of selected forensic hospitals: Treatment services at Kirby Forensic Psychiatric Center. *International Journal of Law and Psychiatry*, 16, 83-104.	Discussion paper
Waldram, J.B & Wong, S. (1995) Group therapy of Aboriginal offenders in a Canadian forensic psychiatric facility. *American Indian and Alaska Native Mental Health Research*, 6, 34-56.	Study Design
Welldon, E.V. (1993) Forensic psychotherapy and group analysis. Group Analysis, 26, 487-502.	Study Design
Welldon, E.V. Group-analytic psychotherapy in an out-patient setting. (1996) Cordess, C. & Cox, M. (Ed). Forensic psychotherapy: Crime, psychodynamics and the offender patient, Vol. 2: Mainly practice. 63-82, 715. London, England: Jessica Kingsley Publishers.	Book Chapter
Wexler, H.K. (2003) The promise of prison-based treatment for dually diagnosed inmates. *Journal of Substance Abuse Treatment*, 25, 223-231.	Study Design
Wolozin, D. & Dalton, E. (1990) Short-term group psychotherapy with the "family-absent father" in a maximum security psychiatric hospital. *Social*	Unable to access journal

References of excluded studies	**Reason for exclusion**
Work with Groups, 13, 103-111.	article

Appendix 5:

Table 4: *Sample size of study*

Authors and year of publication	Sample size
McMurran et al. (2001b)	4
Jones & Hollin (2004)	8
McMurran et al. (1999)	9
Donnelly & Guy (1998)	12
Donnelly & Scott (1999)	12
Hodel & West (2003)	13
McMurran et al. (2001a)	14
Laithwaite et al. (2007)	15
Donnely & Guy et al. (1998)	16
Quayle & Moore (1998)	16
Morris & Moore (2009)	30
Rice (1983)	36
Timmerman & Emmelkamp (2005)	39
Stermac (1986)	40
Vallentine et al. (2010)	42
McMurran et al. (2008)	60
Young et al. (2010)	70
Tapp et al. (2009)	83

Table 5: *Duration of programme (arranged shortest to longest).*

Authors and Year of Study	Duration
McMurran et al. (1999)	6 sessions held weekly for 1.5 hours.
Stermac (1986)	6 sessions, 2 sessions a week for 1 hour.
Donnelly & Guy (1998)	10 sessions (length of time not stated).
Hodel & West (2003)	10 sessions, running at 2 sessions a week, lasting 45 minutes.

Laithwaite et al. (2007)	10 week programme, 1 session per week with sessions lasting approximately 2.5 hours.
Rice (1983)	Both groups: 10 weeks, with 2 90 minute sessions per week.
McMurran et al. (2001b)	15 sessions, 2.5hours in length, held once a week.
Young et al. (2010)	16 sessions, 2 hours in length, once a week. Plus 16 mentoring sessions, one hour per week.
Beck-Sander et al. (1998)	Ran for up to 20 weeks, 1.5 hrs at a time.
Tapp et al. (2009)	20 sessions, 2 hours each, twice a week.
Vallentine et al. (2010)	20 sessions (length of time not stated).
Jones & Hollin (2004)	36 weeks in duration, run weekly with each session lasting 2 hours.
Donnelly & Scott (1999)	54 sessions, 2 sessions per week with each session lasting approximately 2 hours.
McMurran et al. (2008)	Maximum duration is 2 years, multi-component treatment model.
Quayle & Moore (1998)	The AM group ran weekly over 9 months (with breaks between modules) and the IPR group ran (partly in parallel) weekly over 7 months.
Timmerman & Emmelkamp (2005)	Mean duration of treatment is 6 years.
McMurran et al. (2001a)	No information given on duration of treatment.
Morris & Moore (2009)	Runs weekly but duration not stated, nor length of time.

Table 6: *Type of Assessment Used in Studies.*

Type of Assessment		
Self-Report	Mix of Self-Report & Observational	Other
Beck-Sander et al. (1998)	Donnelly & Guy (1998)	Rice (1983) – observational and role-plays
Donnelly & Scott (1999)	Hodel & West (2003)	
Laithwaite et al. (2007)	Jones & Hollin (2004)	Morris & Moore (2009)-

		self report and records
McMurran et al. (2008)	McMurran et al. (2001b)	
McMurran et al. (2001a)	Quayle & Moore (1998)	Vallentine et al. (2010) – self-report, records and interview.
McMurran et al. (1999)	Timmerman & Emmelkamp (2005)	
Stermac (1986)	Young et al. (2010)	
Tapp et al. (2009)		

Appendix 6

Patient Motivation Inventory (PMI)

Listed below are a number of statements concerning personal attitudes and motivation. Read each item and decide whether the statement is true or false as it applies to you personally. If the statement is true as applied to you then circle "**True**"; if it is false as it applies to you then circle "**False**".

1	I came to the unit because I wanted to.	True	False
2	I want treatment because it is important to me personally.	True	False
3	I feel bad about myself if I am not receiving help with my psychological/psychiatric problems.	True	False
4	I will feel like a failure if I do not get treatment.	True	False
5	Getting treatment is the best way to help myself.	True	False
6	I am interested in getting help with my problems.	True	False
7	I am responsible for this choice of treatment.	True	False
8	I only engage in treatment because I am pressured to do so.	True	False
9	I want to share my concerns and feelings.	True	False
10	It will be important to work closely with others.	True	False
11	It is a relief to share my concerns with others.	True	False
12	I accept the fact that I need help and support.	True	False
13	I am not sure this Unit will work for me.	True	False
14	I doubt being on the Unit will help me to stop getting in trouble in the future.	True	False
15	I don't think being on this Unit will help me solve my problems	True	False
16	I came to the Unit because I had no choice.	True	False

Appendix 7:

MVQ *(Developed at the South London and Maudsley NHS Trust)*

Date: _____ Gender: M ☐ F ☐

Everyone has ideas about what is right and wrong and what they would do in difficult situations. Below are some statements about various situations and what you would do or what you think is right and wrong. There are no correct or incorrect answers or trick questions; it is your view that is important. Simply tick the box to show whether the statement is true or false – ***for you****.*

		True	False
1.	It is shameful to walk away from a fight.		
2.	I tend to just react physically without thinking.		
3.	When you are pushed to your limit, there is nothing you can do except fight.		
4.	You can never face people again if you show you are frightened.		
5.	Most people won't learn unless you physically hurt them.		
6.	I enjoy watching violence on TV or in films.		
7.	It is OK to hit someone who threatens to make you look stupid.		
8.	It is OK to hit your partner if they behave unacceptably.		
9.	I expect real men to be violent.		
10.	If you don't stick up for yourself physically you will get trodden on.		
11.	Being violent shows you are a man.		
12.	I am totally against violence.		
13.	Sometimes you have to use violence to get what you want.		
14.	It is OK (or normal) to hit someone if they hit you first.		
15.	You won't survive if you run away from fights and arguments.		
16.	If I am provoked, I can't help but hit the person who provoked me.		
17.	Fighting can make you feel alive and 'fired up'.		
18.	It is OK to hit someone who threatens your family.		

19.	If I felt threatened by someone, I would stop them by attacking them first.		
20.	Physical violence is a necessary sign of strength and power.		
21.	Violence is second nature to me.		
22.	People who irritate you deserve to be hit.		
23.	If I get angry, hitting out makes me feel better.		
24.	I just seem to attract violence.		
25.	Fighting can help to sort out most disagreements.		
26.	Men who are gentle get walked on.		
27.	It is OK to have violence on TV.		
28.	Sometimes you have to be violent to show that you are a man.		
29.	I hate violence.		
30.	If someone attacked me verbally, I would attack them physically.		
31.	When I can't think of what to say, it's easier to react with my fists.		
32.	If someone cuts you up in traffic, it's OK to swear at them.		
33.	It is OK (or normal) to hit women if you need to teach them a lesson.		
34.	I enjoy watching violent sports (e.g. boxing).		
35.	If I don't show that I'm tough and strong, people will think I'm weak and pathetic.		
36.	It is OK to hit someone who upsets you.		
37.	I wouldn't feel bad about hitting someone if they really deserved it.		
38.	When I have hurt people, I feel bad or even hate myself for it afterwards.		
39.	It is OK to hit someone if they make you looks stupid.		
40.	It is OK to have violence in films at the cinema.		
41.	Some people only understand when you show them through physical strength.		
42.	I enjoy fighting.		
43.	Fear is a sign of weakness.		
44.	It is OK to be violent if someone threatens to damage your property.		
45.	I believe that if someone annoys you, you have a right to get them back, by		

	whatever means necessary.		
46.	If I were in a potentially violent situation, I would automatically confront the person threatening me.		
47.	I would rather lose a fight and get beaten up than embarrass myself by walking away.		
48.	Being violent shows you are strong.		
49.	It is OK to hit someone who threatens your partner.		
50.	Being violent shows that you can assert yourself.		
51.	It is normal for men to want to fight.		
52.	Because anyone can suffer hurt and pain, you should not hit other people.		
53.	I see myself as a violent person.		
54.	'Real men' are not afraid of fighting.		
55.	If you are not willing to fight it means you are weak and pathetic.		
56.	If trouble starts, I wouldn't think about it – I would just get stuck in and fight.		

Appendix 8:

Personal Affect Questionnaire/ Reactions to Provocation Scale

Part A

Read each statement carefully and decide whether you think it is never true, sometimes true or always true with regards to your thoughts and experiences IN THE LAST MONTH.

	Never True	Sometimes True	Always True
1. I notice annoying things right away	1	2	3
2. Once something makes me angry, I have trouble concentrating	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. Some people would say that I am a hothead	1	2	3
6. When I get angry, I stay angry for hours	1	2	3
7. My muscles feel tight and wound up	1	2	3
8. I walk around in a bad mood	1	2	3
9. My temper is quick and hot	1	2	3
10. When someone yells at me, I yell back at them	1	2	3
11. I have to be rough with people who bothered me	1	2	3

12. I feel like smashing things	1	2	3
13. When a person says something that offends me, I stop listening	1	2	3
14. I can't sleep when I have been done wrong	1	2	3
15. If I don't like someone, it doesn't bother me to hurt their feelings	1	2	3
16. People can be trusted to do what they say	1	2	3
17. When I get angry, I get really angry	1	2	3
18. When I think about something that makes me angry, I get even more angry	1	2	3
19. I feel agitated and unable to relax	1	2	3
20. I get annoyed when someone interrupts me	1	2	3
21. If someone bothers me, I react first and think later	1	2	3
22. If I don't like somebody, I tell them off	1	2	3
23. When I get mad, I can easily hit someone	1	2	3
24. When I get angry, I throw or slam things	1	2	3
25. If a person does something nasty, it sticks out in my mind	1	2	3
26. When someone makes me angry, I think about getting even	1	2	3
27. If someone cheats me, I'd make them feel sorry	1	2	3
28. People act like they are being honest when they have something to hide	1	2	3

29. When I get angry, I feel like smashing things	1	2	3
30. Some people get angry and get over it, but for me it takes a long time	1	2	3
31. I have trouble sleeping or falling asleep	1	2	3
32. A lot of little things bug me	1	2	3
33. I have a fiery temper that arises in an instant	1	2	3
34. Some people need to be told to “get lost”	1	2	3
35. If someone hits me first, I hit them back	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. I feel like I am getting a raw deal out of life	1	2	3
39. When I don’t like somebody, there’s no point in being nice to them	1	2	3
40. When someone does something nice for me, I wonder about the hidden reason	1	2	3
41. It makes my blood boil to have someone make fun of me	1	2	3
42. When I get mad at someone, I give them the silent treatment	1	2	3
43. My head aches when people annoy me	1	2	3
44. It bothers me when someone does things the wrong way	1	2	3
45. When I get angry, I fly off the handle before I know it	1	2	3

46. When I start to argue with someone, I don't stop until they do	1	2	3
47. Some people need to get knocked around	1	2	3
48. If someone makes me angry, I'll tell other people about them	1	2	3

Appendix 9:

SPSI-R:S

Name: _____ Gender: M F (circle one)

Date of Birth: _____ /_____/_____ Age: _____

Today's date: _____ /_____/_____

Instructions: Below are some ways that you might think, feel and act when faced with problems in everyday living. We are not talking about the ordinary hassles and pressures that you handle successfully every day. In this questionnaire, a problem is something important in your life that bothers you a lot, but you don't immediately know how to make it better or stop it from bothering you so much. The problem could be something about yourself (such as your thoughts, feelings, behaviour, health, or appearance), your relationships with other people (such as your family, friends, teachers or boss), or your environment and the things you own (such as your house, car, property or money). Please read each statement carefully and choose one of the numbers below that best shows how much the statement is true of you. See yourself as you usually think, feel, and act when you are faced with important problems in your life these days. Circle the number that is the most true of you. Do not erase if you want to change an answer, instead put an X through the answer you wish to change. Try to answer all of the questions.

	Not at all true of me	Slightly true of me	Moderatel y true of me	Very true of me	Extremely true of me
1. I feel threatened and afraid when I have an important problem to solve.	0	1	2	3	4
2. When making decisions, I do not evaluate all my options carefully enough.	0	1	2	3	4
3. I feel nervous and unsure when I have an important decision to make.	0	1	2	3	4
4. When my first efforts to solve a problem fail, I know if I persist and do not give up too easily, I will be able to eventually find a good solution.	0	1	2	3	4
5. When I have a problem, I try to see it as a challenge, or opportunity to benefit in some positive way from having the problem.	0	1	2	3	4
6. I wait to see if a problem will resolve itself first, before trying to solve it myself.	0	1	2	3	4

7. When my first efforts to solve a problem fail, I get very frustrated.	0	1	2	3	4
8. When I am faced with a difficult problem, I doubt that I will be able to solve it on my own no matter how hard I try.	0	1	2	3	4
9. Whenever I have a problem, I believe that it can be solved.	0	1	2	3	4
10. I go out of my way to avoid having to deal with problems in my life.	0	1	2	3	4
11. Difficult problems make me very upset.	0	1	2	3	4
12. When I have a decision to make, I try to predict the positive and negative consequences of each option.	0	1	2	3	4
13. When problems occur in my life, I like to deal with them as soon as possible.	0	1	2	3	4
14. When I am trying to solve a problem, I go with the first good idea that comes to mind.	0	1	2	3	4
15. When I am faced with a difficult problem, I believe that I will be able to solve it on my own if I try hard enough.	0	1	2	3	4
16. When I have a problem to solve, one of the first things I do is get as many facts about the problem as possible.	0	1	2	3	4
17. When a problem occurs in my life, I put off trying to solve it for as long as possible.	0	1	2	3	4
18. I spend more time avoiding my problems than solving them.	0	1	2	3	4
19. Before I try to solve a problem, I set a specific goal so that I know exactly what I want to accomplish.	0	1	2	3	4
20. When I have a decision to make, I do not take the time to consider the pros and cons of each option.	0	1	2	3	4
21. After carrying out a solution to a problem, I try to evaluate as carefully as possible how much the situation has changed for the better.	0	1	2	3	4

22. I put off solving problems until it is too late to do anything about them.	0	1	2	3	4
23. When I am trying to solve a problem, I think of as many options as possible until I cannot come up with any more ideas.	0	1	2	3	4
24. When making decisions, I go with my gut feeling without thinking too much about the consequences of each option.	0	1	2	3	4
25. I am too impulsive when it comes to making decisions.	0	1	2	3	4

Appendix 10:

Locus of Control Questionnaire

We are trying to find out what men and women your age think about certain things. We want you to answer the following questions the way *you* feel. There are no right or wrong answers. Don't take too much time answering any one question, and do try to answer them all.

One of your concerns during the test may be, "What should I do if I can answer both yes and no to a question?" It's not unusual for that to happen. If it does, think about whether your answer is just a little more one way than the other. For example, if you'd assign a weighting of 51% to 'yes' and assign 29% to 'no' mark the answer 'yes'. Try to pick one response for all the questions and no leave any blanks.

Circle 'yes' or 'no' next to each item.

1.	Do you believe that most problems will solve themselves if you just don't fool with them?	YES	NO
2.	Do you believe that you can stop yourself from catching a cold?	YES	NO
3.	Are some people just born lucky?	YES	NO
4.	Most of the time do you feel that getting good marks at school meant a great deal to you?	YES	NO
5.	Are you often blamed for things that just aren't your fault?	YES	NO
6.	Do you believe that if somebody studies hard enough he or she can pass any subject?	YES	NO
7.	Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?	YES	NO
8.	Do you feel that if things start out well in the morning it is going to be a good day no matter what you do?	YES	NO
9.	Do you feel that most of the time parents listen to what their children have to say?	YES	NO
10.	Do you believe that wishing can make good things happen?	YES	NO
11.	When you get punished does it usually seem it's for no good reason at all?	YES	NO
12.	Most of the time do you find it hard to change a friend's mind or opinion?	YES	NO
13.	Do you think that cheering more than luck helps a team to win?	YES	NO

14.	Did you feel that it was nearly impossible to change your parents' mind about anything?	YES	NO
15.	Do you believe that parents should allow children to make the most of their own decisions?	YES	NO
16.	Do you feel that when you do something wrong there's very little you can do to make it right?	YES	NO
17.	Do you believe that most people are just born good at sports?	YES	NO
18.	Are most of the other people your age stronger than you are?	YES	NO
19.	Do you feel that one of the best ways to handle most problems is just not to think about them?	YES	NO
20.	Do you feel that you have a lot of choice in deciding whom your friends are?	YES	NO
21.	If you find a four leaf clover do you believe that it might bring you good luck?	YES	NO
22.	Did you feel that whether you did homework or not has much to do with what kind of marks you got?	YES	NO
23.	Do you feel that when a person your age decides to hit you there's little you can do to stop him or her?	YES	NO
24.	Have you ever had a good luck charm?	YES	NO
25.	Do you believe that whether or not people like you depends on how you act?	YES	NO
26.	Did your parents usually help you if you asked them to?	YES	NO
27.	Have you felt that when people were angry with you it was usually for no reason at all?	YES	NO
28.	Most of the time, do you feel that you can change what might happen tomorrow by what you do today?	YES	NO
29.	Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?	YES	NO
30.	Do you think that people can get their own way if they just keep trying?	YES	NO
31.	Most of the time do you find it useless to try to get your own way at home?	YES	NO
32.	Do you feel that when good things happen they happen because of hard work?	YES	NO
33.	Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?	YES	NO
34.	Do you feel that it's easy to get friends to do want you want them to?	YES	NO
35.	Do you usually feel that you have little to say about what you eat at home?	YES	NO

36.	Do you feel that when someone doesn't like you there's little you can do about it?	YES	NO
37.	Did you usually feel that it was almost useless to try in school because most other children were just cleverer than you were?	YES	NO
38.	Are you the kind of person who believes that planning ahead makes things turn out better?	YES	NO
39.	Most of the time do you feel that you have little to say about what your family decides to do?	YES	NO
40.	Do you think it's better to be clever than to be lucky?	YES	NO

Appendix 11:

DBSP Scale: Mental Health Version

The following items describe the way that some people feel and behave. Please rate your impression of how……. (Name of person that questionnaire is about) has been **IN THE PAST MONTH** on the scale.

	Not at All						**Some-What**						**Very much so**
1. .Is the patient difficult to manage on the ward?	1	2	3	4	5	6	7
2. Does the patient seek attention from the staff?	1	2	3	4	5	6	7
3. Is the patient's behaviour disruptive on the ward?	1	2	3	4	5	6	7
4. Does the patient often demand attention from other patients?	1	2	3	4	5	6	7
5. Is the person often verbally aggressive?	1	2	3	4	5	6	7
6. Is the patient often physically aggressive?	1	2	3	4	5	6	7
7. Is the patient often provocative?	1	2	3	4	5	6	7
8. Does the patient act impulsively?	1	2	3	4	5	6	7
9. Does the patient show good insight into his/her behaviour?	1	2	3	4	5	6	7
10. Do you find it easy to establish good rapport with this patient?	1	2	3	4	5	6	7
11. Does the patient show feelings of guilt after wrongdoings?	1	2	3	4	5	6	7
12. Is it easy for the patients to establish good rapport with other patients?	1	2	3	4	5	6	7
13. Does the patient get on well with staff?	1	2	3	4	5	6	7
14. Does the patient get on well with other people?	1	2	3	4	5	6	7

Appendix 12:

Questionnaire of Antisocial and Problematic Behaviour on the Ward

Please complete in relation to the last month

1. Has the patient failed a drug test?

Yes ☐ No ☐ NK ☐

2. Has the patient violated unit alcohol policy?

Yes ☐ No ☐ NK ☐

3. Has the patient been suspected of stealing from or exploiting other patients financially?

Yes ☐ No ☐ NK ☐

4. Has the patient been known to have or been suspected of sexually inappropriate or exploitative behaviour with others?

Yes ☐ No ☐ NK ☐

5. Key worker's rating of patient's compliance with medication during past month (*please tick)*:

Excellent Compliance ☐

(Misses no medication, does not need prompting)

Compliance problems ☐

(Needs prompting and encouragement to accept medication)

☐

Poor Compliance

(Regularly refuses oral medication, persistently reluctant to take medication/has required occasional forcible administration of medication)

☐

Enforced Compliance

(Adheres with medication only because this is a requirement of Section or other legal order)

6. Key worker's rating of patient's compliance with key worker and psychological treatment sessions during past month (*please tick)*:

Does not keep appointments/misses almost all appointments/ ☐

refuses to engage with psychological treatment or key worker sessions

☐

Regularly misses or refuses appointments

Keeps all/almost all appointments with prompting ☐

Keeps all/almost all appointments without prompting ☐

7. Has the patient been admitted to the seclusion room?

Yes ☐ No ☐ NK ☐

8. Has the patient had contact with police or other criminal justice agencies because of behaviour during past month?

Yes ☐ No ☐ NK ☐

9. Has the patient violated leave arrangements?

Yes ☐ No ☐ NK ☐

10. Has the patient had leave arrangements withdrawn because of unit rule violations, concern about risk etc?

Yes ☐ No ☐ NK ☐

Appendix 13:

Mental Health Section Information

Information from Mental Health Act 1983 and Mental Health Act 2007

Detention under section:

Patients can be detained under civil sections (by social workers and doctors) or under criminal sections (by the courts or after transfer from prison). Criminal sections can be sub-divided into restricted and unrestricted sections:

- Civil (all unrestricted): e.g. sections 2 and 3
- Criminal, unrestricted: e.g. section 37
- Criminal, restricted: e.g. section 37/41, section 47/49

Section 2: Admission for assessment. This lasts a maximum of 28 days and cannot be renewed (a section 3 can be applied).

Section 3: Admission for treatment. This last for a maximum of 6 months and can be renewed for a further 6 month period and then for further yearly periods.

Section 37: Hospital order. This is a court order that is imposed instead of a prison sentence and has the same duration as a section 3. The route to discharge differs.

Notional 37: a section 47 patient who is notionally treated as if subject to a hospital order (section 37), transferred without a restriction direction.

Section 38: Interim hospital order imposed by the courts. This last for a maximum of 12 weeks and is then renewable for 28 days at a time up to a maximum of 12 months.

Section 37/41: Restriction order. This is a court order made by the Crown Court and comprises of the section 37 and the section 41 (the restriction order). Leave, transfer and discharge requires Ministry of Justice permission.

Section 47: Transfer direction. Used when transferring a serving prisoner to hospital, the prisoner would not return to prison unless they breach license conditions.

Section 47/49: Restriction direction. Combines transfer direction and restriction order (section 49) and restrictions are the same as section 41. The prisoner can be transferred back to prison at any time, on medical advice or the advice of the mental health tribunal.

Section 48: Transfer of people on remand in prison to hospital for treatment. This section is used to transfer a remand or un-sentenced prisoner to hospital from prison.

Section 48/49: Restriction direction following transfer from prison to hospital. Combines transfer direction (section 48) and restriction order (section 49) and restrictions are the same as section 41.