The Mental Health Act 1983 in action: what evidence exists for psychological treatment of people subject to detention, how are sentencing decisions made in relation to *R v Vowles*, and are these decisions influenced by diagnosis or beliefs about the origin of mental health problems?

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Thesis Portfolio Abstract

Aims: The systematic review in this thesis portfolio aimed to investigate the efficacy of psychological interventions for those detained under the Mental Health Act (MHA) (1983). The empirical research project aimed to explore how *Vowles* sentencing criteria is applied to detention under the MHA and how beliefs about the origins of mental health and diagnostic labels, were associated with sentencing outcomes.

Methods: The systematic review synthesised all psychological outcome data reported from Randomised Controlled Trials (RCTs), Non-Randomised Controlled Trials (NRCTs) and Before and After Studies (B&As) for psychological interventions delivered under the MHA in England and Wales. The empirical research project used an experimental vignette to measure consistency of agreement with *Vowles* criteria, the associations between diagnosis and *Vowles* ratings and final sentencing outcome. Mediating beliefs about the origin of mental health difficulties were also measured.

Results: Forty-three studies (n = 5512) were included in the systematic review. The evidence was sparse, however the data showed improvements associated with Cognitive Behavioural Therapy (CBT) and group interventions in forensic settings. The empirical project found sentencing outcomes were inconsistent; 77.27% had a custodial element, 22.73% did not. Beliefs about the origins of mental health difficulties appeared to mediate some *Vowles* criteria ratings and were associated with different sentencing outcomes depending on diagnosis: biogenetic beliefs increased the likelihood of hospital for emotionally unstable personality disorder (EUPD) and of custodial sentences for schizophrenia.

Conclusions: The systematic review suggests that larger scale RCTs are needed in secure, acute and LD inpatient settings with longer term follow up, blind assessors and a combination of self-report and clinician measures, as well as incident, readmission and reoffending rates. The empirical research project findings suggest that the sentencing of mentally disordered offenders (MDOs) requires additional safeguards against personal bias; further exploration in a senior judiciary sample is now required.

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Chapter 1. Introductory Chapter

This introductory chapter aims to provide background information on the core concepts included in the portfolio and outlines the rationale for the systematic review and empirical research project that have been undertaken.

The Mental Health Act (MHA) (1983) is the main piece of legislation in England and Wales that covers the assessment, treatment and rights of people with a mental health disorder, who are detained or receive treatment against their will. Detention under the MHA – a process more colloquially referred to as being 'sectioned' – is done without consent of the person subject to detention, to enable urgent assessment and treatment for a mental health disorder if there is a risk of harm to themselves or others. Detention under the MHA can be on a general non-secure psychiatric ward, which may also be referred to as an 'acute' ward. Or, detention may require a specialist 'secure' ward, which may be classified differently depending on the level of physical and relational security required to manage risk. Low secure wards can include psychiatric intensive care units (PICUs), low secure forensic services and secure rehabilitation centres. Such settings may include inpatients with or without a history of offending and/or violence risk. Medium and high secure wards are forensic inpatient settings for individuals who pose a serious risk to others. There are also specialist wards that provide assessment and treatment for people detained under the MHA who have a diagnosed learning disability. Hence, the MHA offers a unique context in which psychological interventions are delivered in a range of inpatient settings to individuals who are detained against their will. This provides a challenging setting in which to deliver psychological therapies that rely on consent, collaboration and principles of individual engagement.

There are a range of psychological interventions recommended for different types of clinical problem in guidance published by the National Institute for Health and Care Excellence (NICE), which target a range of outcomes related to mental health, from symptom reduction, to behavioural change and attitude shifts. Such guidance may provide a starting point for determining the type of psychological treatments to offer to people subject to the MHA. No systematic review or meta-analysis has yet synthesised the outcome data in England and Wales for all psychological interventions delivered to those detained under the MHA, where a

standardised level of care is expected in adherence to NICE guidance and inspection by the Care Quality Commission. The literature including psychological interventions and measures in the MHA context is sparse and high in heterogeneity, hence a systematic review approach was adopted and 'before and after' (B&A) studies were included to convey an overall picture of the current evidence base.

Whilst the Systematic Review considers questions of treatment for people detained under the MHA, the Empirical Project (EP) focuses primarily on the processes by which decisions are made to detain people under the MHA, specifically using the legislation in Part III of the MHA, which relates to 'Patients concerned in Criminal Proceedings or Under Sentence'. A central part of case-law here, considered in more detail in the EP itself, is laid down in R v *Vowles,* and is used by judges to inform which mentally disordered offenders (MDOs) go to prison and which are detained under the MHA in secure hospital (typically Section 37/41 (s.37/41) of the MHA). The judge also has the option to utilise Section 45a (s.45a) of the MHA which is a hybrid order, whereby a minimum custodial sentence is attached to a secure hospital order. This would mean under s.45a, if a psychiatric review determined that an individual no longer required treatment, they would be transferred to prison until eligible for parole, whereas they would be eligible for a review for discharge by a Mental Health Tribunal under s.37/41. However, previous literature (Beech et al., 2019 and Peay, 2016) has questioned the reliability of these sentencing criteria, and little research exists which explores basic questions such as the likely 'agreement' between judges who might be faced with making such impactful decisions about people with mental health problems in this context.. The criteria laid down in *Vowles* to inform this decision has four criteria, which require the judge to consider the extent to which: the offender's mental health requires treatment (1), offending is attributable to the mental health disorder (2), offending requires punishment (3) and the public require protection when deciding release and regime of release (4). Currently, the judge is asked to make this appraisal based on the psychiatric material evidence presented by the defence and prosecution and only at the judge's discretion will a third-party pre-sentencing psychiatric report, or evidence from a Clinical Psychologist, be requested before this final sentencing decision is made between prison, or one of the two MHA sections (s.37/41 or s.45a). Therefore, the empirical project aims to test how reliably this sentencing criteria is applied, in relation to factors such as diagnosis and individual beliefs about the origins of mental health, as from a theoretical perspective,

application of *Vowles* appears vulnerable to the influence of individual bias based on perceptions about diagnostic label (Baker et al., 2021) and how treatment under the MHA is viewed by the individual (Beech et al., 2019).

To summarise, this thesis portfolio features a systematic review exploring the efficacy of psychological interventions for those detained under the MHA in England and Wales and an empirical research project exploring the reliability of sentencing MDOs. Chapter 2 presents the systematic review written for publication to the *British Journal of Psychiatry*. Chapter 3 consists of a bridging chapter, linking the systematic review and empirical research project together and Chapter 4 includes the empirical research project written for publication to *Psychiatry, Psychology and Law Journal*. The recruitment for the empirical research project was conducted jointly with a fellow Trainee Clinical Psychologist, who used a different measure within the same survey to explore separate research questions. The last chapter (5) comprises the main findings from both the systematic review and empirical research project. The strengths, limitations and clinical implications are discussed, as well as future research direction and a summary of final reflections and conclusions drawn from this thesis portfolio. Four reference lists are presented: two at the end of Chapter 2 for all systematic review references (1) and the included studies in the systematic review (2; as per journal guidelines), one at the end of Chapter 4 for the empirical research project (3) and finally references from all other chapters are presented after Chapter 5, before the Appendices, which are located at the end of the thesis portfolio.

Additional Terminology

A number of different psychological interventions are included in the systematic review in Chapter 2, a brief descriptive overview of each is provided below. These definitions are in accordance with the definitions used by the authors of the studies included, and so may differ to some degree to other literature not cited in this thesis portfolio which use the same terminology.

‘Anger Management’ (AM) refers to a group based on cognitive-behavioural principles relating to thoughts, feelings and behaviours, whilst also integrating psychodynamic interpretations regarding events in the patients’ lives. The structured intervention included: basic concepts and functions of anger; analysis of

past experiences of anger in self or significant others; non-verbal cues to anger; self-monitoring and analysis of underlying thought patterns during angry incidents; problem solving and assertive coping skills; and a final personal reflection on the role of anger in the patient's past life.

'Cognitive Behavioural Therapy' (CBT) refers to a widely used psychological intervention that aims to improve mental health by focusing on challenging and altering thoughts and behaviours to improve emotional regulation and aid the development of personal coping strategies in relation to key triggers.

'Cognitive Behavioural Therapy psychoeducation' is the introduction to the aforementioned cognitive behavioural model, which may precede therapy itself, but can also be delivered as an intervention, under the premise that increased familiarity and awareness of the maintenance of mental health difficulties may in itself stimulate change, without formalised therapy to trial exposure to thinking or behaving differently.

'Dialectical Behavioural Therapy' (DBT) refers to a psychological intervention that aims to treat suicidality and self-harm in individuals with personality disorder. A comprehensive DBT programme typically includes five modules: enhancing capabilities, enhancing patient motivation, ensuring skills are generalisable, structuring of the environment and enhancing the therapist's capability to effectively deliver the DBT.

'Dramatherapy' refers to an intervention consisting of theatrical and dramatic techniques which aim to integrate cognitive behavioural anger management techniques to reduce offending behaviours, based on the premise that the offender is an individual who has the autonomy to make active choices. The workshops include demonstrations and the opportunity to observe and practice appropriate assertiveness rather than aggression. Each patient also gets the opportunity, in a small group or individually, to share past experiences of anger.

'Dual Diagnosis Intervention' (DDI) refers to a manualised intervention incorporating the techniques and underlying principles of cognitive behavioural therapy and motivational interviewing which is based on the Stages of Change model (Velasquez et al., 2015). Stage one is a psychoeducation programme which

aims to increase understanding of the interactions between substance use, mental/physical health and offending behaviour. Stage two takes a CBT-based skills approach to develop coping strategies for patterns of substance use linked to cravings and high-risk situations, thoughts and feelings.

'Enhanced Thinking Skills Programme' (ETS) refers to a cognitive skills course focussing on six areas: interpersonal problem solving; self-control; cognitive style; social perspective-taking; moral values; and critical reasoning.

'Firesetting Intervention Programme for Mentally Disordered Offenders' (FIP-MO) refers to a semi-structured manualised group and individual intervention that targets deliberate fire-setting, high-risk thoughts, feelings and behaviours relating to fire.

'Functional Analysis' (FA) refers to a group intervention (which can also be delivered individually) based on cognitive-behavioural principles. Patient's offending was analysed in terms of antecedent setting factors and triggers; the cognitions, emotions and behaviour. Individualised plans were then developed to outline learnt coping skills and support systems available.

'Interpersonal Relations Group' refers to a group intervention based on cognitive-behavioural, cognitive-interpersonal and psychodynamic principles, which sought to identify elements of interpersonal relationships including trust, honesty, respect, values, needs, uses and abuses of power) to identify ways of coping with conflict.

'Living with/Understanding Mental Illness Programme' (LMVI) refers to a group intervention (with individual sessions also offered) that aimed to increase participants' knowledge of schizophrenia and the treatments available, self-management and relapse prevention.

'Life Minus Violence-Enhanced' (LMV-E) refers to a group intervention based on cognitive-behavioural principles, designed to reduce the risk of verbal and physical aggression.

'Mindfulness' refers to an intervention that aims to increase the awareness of internal events, through self-monitoring, practising acceptance and 'detaching' from thoughts and feelings.

‘Progressive Muscle Relaxation’ (PMR) refers to focussed practice of using body scanning to relax muscle groups in conjunction verbal and visually cued meditation.

‘Reasoning and Rehabilitation Programme’ (R&R) refers to a group intervention based on the premise that offenders can be taught values, attitudes, reasoning and social skills, as alternatives to criminal activity. The programme has since been updated (R&R2 MHP) and there is a variation tailored for offenders with Attention Deficit Hyperactivity Disorder (R&R2 ADHD).

‘Schema Focussed Therapy (SFT)’ refers to an individualised intervention for personality disorder that aims to change unhelpful patterns of thinking. This form of therapy integrates elements of CBT with other types of psychotherapy.

‘Social Problem Solving’ (SPS) refers to a group intervention which used a CBT approach to problem-solving, and consisted of encouraging participants to choose the most helpful attitude to solve the problem, then define the problem, consider alternatives, predict outcomes and try solutions out.

‘Substance Use Treatment Programme (SUTP)’ refers to a group intervention based on motivational interviewing and psycho-education around substance use to encourage abstinence, followed by relapse prevention, practising coping strategies and social activities to support continued abstinence.

‘Transition Programme (TP)’ refers to an manualised individual intervention aiming to support discharge by covering endings and letting go, coping with change, saying goodbye and new beginnings, thoughts and reflections about transitioning.

‘Violence Reduction Programme (VRP)’ refers to a group intervention based on the Model of Change by Prochaska et al. (1992), which aims to engage patients participants in treatment, encourage acquisition of new skills and strategies for avoiding violent conflict and to enhance understanding around relapse prevention.

‘Wellbeing Intervention’ refers to a group intervention aimed at introducing the idea of wellbeing and the importance of goals and plans in maintaining motivation and developing solutions to overcome obstacles.

The term “Mentally Disordered Offender” is also used in Chapter 4, in reference to offenders with serious mental illness, consistent with wider use in research, clinical and government literature. However, it is recognised the term “disorder” itself may suggest notions of bio-medical causality that could be critiqued from a different view.

Chapter 2. Systematic Review

A systematic review of the efficacy of psychological treatments for people detained under the Mental Health Act.

Written for publication to *British Journal of Psychiatry*

(Author guidelines for manuscript preparation – Appendix A)

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Abstract

Objective

The efficacy of psychological interventions for those detained under the Mental Health Act (MHA) (1983) in England and Wales remains unclear. While previous meta-analyses have reviewed acute and forensic psychological interventions in wider geographical areas, there has been no review specifically within this population, where MHA detention provides a unique context.

Method

A systematic review was conducted of psychological intervention outcomes delivered to inpatients detained under the MHA in England and Wales. No restriction was placed on patient diagnoses or type of psychological intervention, provided at least one psychological outcome measure was used. Studies were identified through APA PsychInfo, MEDLINE, CINAHL and Academic Search using a combination of key terms. Data extraction focussed on effect direction and statistical significance of psychological outcomes, intervention type, format and duration, study size, inpatient setting, control group (if applicable) and study quality.

Results

High quality evidence in the MHA context was sparse. Some improvements were found in overall wellbeing, self-esteem, social functioning, problem solving, substance use, anger, attitudes towards offending, fire-setting, violence, anxiety, depression, personality disorder and psychosis. However, the overall evidence base is lacking, particularly for interventions delivered individually and outside of a forensic context.

Conclusions

Larger scale RCTs are needed across secure, acute and LD inpatient settings in England and Wales with longer term follow up, blind assessors and a combination of self-report and clinician rated measures, as well as incident, readmission and reoffending rates. Greater representation is also needed of female and non-white groups and primary diagnoses of affective disorders.

Introduction

Two recent meta-analyses have reviewed the literature pertaining to psychological interventions and their associated outcomes in acute (Paterson et al., 2018) and forensic (McIntosh et al., 2021) inpatient settings. Other meta-analyses have also included forensic inpatient treatment outcomes (Papalia et al., 2019; Yoon et al., 2017) but these included prisoners and community forensic patients. This reduces the applicability of findings to inpatient care, as noted by Thomas et al. (2009) whereby the difference between mentally disordered offenders (MDOs) in prison compared to secure hospital may lead to a difference in efficacy of the same treatment.

In regards to the Paterson et al. (2018) and McIntosh et al. (2021) reviews, both found small or moderate improvements associated with inpatient psychological interventions for symptoms of psychosis, depression and anxiety. McIntosh et al. (2021) also found improvements in problem solving ability, attitudes towards offending and aggressive behaviour, whilst Paterson et al. (2018) also noted reduced readmission rates. However, both these meta-analyses synthesised the data irrespective of geographical location and Paterson et al. (2018) included patients who were not subject to compulsory treatment. Hence, the nature and duration of detention and the conditions of community release for inpatients involved in studies outside England and Wales, will have differed from the Mental Health Act (hereafter MHA) (1983), depending on local legislature. These variable conditions on detention and whether it is voluntarily, with or without mandatory treatment, offer a unique and important legislative layer when assessing the engagement and efficacy of psychological interventions.

The distinct legal system in England and Wales and environment for detentions in such locations under the MHA is likely to lead to differences in the nature of client groups admitted, as well as the subsequent decision-making for the provision of treatment. Furthermore, the wider clinical context of units in England and Wales further suggest a specific and focused review of outcomes is required; provision of clinical care in such units is expected to reflect national clinical recommendations drawn from National Institute for Health and Care Excellence (NICE) guidance and are all inspected by the Care Quality Commission (CQC). Additionally, staff would be required to complete National Health Service (NHS)

mandatory training. These differences are important in light of findings that differences in ward and inpatient environments can moderate the efficacy of psychological interventions by the extent to which they are experienced as safe and therapeutic (The Schizophrenia Commission, 2012). Therefore, it is difficult to conclude from any previous synthesis of data, how effective psychological interventions are for those detained under the MHA in England and Wales.

Paterson et al. (2018) and McIntosh et al. (2021) also filtered their reviews for higher quality controlled trials. Whilst this improved the quality of evidence synthesised, an initial scope of the literature – already observed to be sparse in forensic (Barnao & Ward, 2015) and acute (Paterson et al. 2018) – revealed almost half of trials involving psychiatric inpatients in England and Wales are uncontrolled 'before and after' (B&A) studies. Therefore, inclusion of these studies in a systematic review may begin to resolve the disconnect between therapies being practiced and those being published (Mallion et al., 2019) and offer some guidance for future funding allocation for higher quality controlled and randomised research, ideally with blind assessors.

No systematic review has yet been undertaken into the efficacy of psychological interventions specifically in England and Wales, for people detained under the MHA. This is a unique context, whereby inpatients are subject to compulsion in their treatment as a result of detention under the MHA. So whilst Cognitive Behavioural Therapy (CBT) is considered the gold standard for affective disorders including anxiety and depression, as well as other serious mental illnesses such as schizophrenia and personality disorder (Hofman et al., 2012), the majority of the evidence base come from community samples, with very few randomised controlled trials (RCTs) using participants detained under the MHA where there is the compulsion-to-treat element. It is also pertinent that the threshold for admission in England and Wales has risen in recent years - increasing the severity of symptoms and risk requiring psychological intervention - with alternatives to hospital being promoted and the number of mental health beds reducing (Brooker et al., 2007; Department of Health, 2015). Thus, both the layers of coercion and the potential for resulting power dynamics affecting the therapeutic relationship (Molkenthin, 2016) and the complexity of inpatients detained under the MHA contribute to the unique need to study the evidence base with this population.

It is also important that the current body of evidence in England and Wales is synthesised to inform evidence-based and cost-effective mental healthcare for those detained under the MHA. Milne (2019) reported that approximately a quarter of the NHS budget goes towards mental health, with around half of this amount spent on mental health services in hospitals. Durcan, Hoare and Cumming (2011) highlighted that a third of forensic secure beds (which are funded from the NHS budget) are provided by the independent sector; hence, small changes or improvements in effectiveness/outcomes of those detained under the MHA could result in significant savings. In addition to the insight a systematic review would offer clinicians, it would also offer researchers greater clarity on where evidence is particularly lacking or conflicting. This may inform future focus in terms of intervention models used, as well as the format and duration, study size, inpatient setting and nature of any control group.

This review therefore asks the question: What is the efficacy of psychological treatments for people detained under the MHA? It aims to add specific insight into the efficacy of psychological interventions taking place in concurrence with detention under the MHA, including inpatients in specialist learning disability (LD) inpatient settings. Due to the inherent difficulty of conducting randomised controlled trials in inpatient settings, within the current context in England and Wales of there being a dearth of evidence, and almost half of the evidence available is from B&A studies, this review will include uncontrolled trials in the synthesis of evidence; study quality ratings will acknowledge the limitations of this design.

Method

Protocol Registration

The systematic review protocol adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009) and was registered on the international prospective register of systematic reviews, PROSPERO (registration number: CRD42021255026).

Search Strategy

The full search string used can be found in Appendix B; alternative search terms were generated for ‘Psychological Treatment’, ‘Detained under Mental Health Act’ and ‘United Kingdom’. To ensure

additional studies in England and Wales were not missed, the reference lists from previous relevant reviews (McIntosh et al., 2021; Paterson et al. 2018) were also reviewed, as were the reference lists of all forty-three studies included. Only studies conducted in England and Wales were included. A scope of the literature also highlighted a significant number of B&A studies that would otherwise meet inclusion criteria, so the decision was made for the 'outcome comparison' search string to be omitted from the final search strategy. This omitted search string can still be found for reference in Appendix B.

Eligibility Criteria

Eligibility criteria is presented below using the PICO framework (Richardson et al., 1995). Additional exclusion criteria included screening for single case studies, feasibility studies, books, ebooks, commentaries or reviews.

Participants

Any psychiatric inpatients detained in England or Wales under a section of the MHA, between 1990 and 2021. This could include any adult detained in an acute unit, psychiatric intensive care unit, LD unit, or secure unit (low, medium or high). For dual studies (including prison/community, plus a secure inpatient setting), findings must be reported separately within the study.

Intervention

Any non-medical intervention using a psychological model, including interventions focused on any aspects of mental health, behaviour change or other psychosocial need.

Comparison

In addition to randomised controlled trials (RCTs) and non-randomised controlled trials (NRCTs), this systematic review opted to include uncontrolled trials (B&A studies) with only pre-post intervention data. This was done to synthesise a spread of research and highlight this common methodological weakness in the summary of study characteristics in the current body of evidence.

Outcome

Any measure of mental health symptoms, psychological wellbeing, behaviour or attitude change.

Study Selection and Data Extraction

This part of the systematic review process was conducted by two reviewers, as recommended by Lipsey & Wilson (2001). The second reviewer took twenty percent of the studies screened by the primary reviewer at each stage. Out of the 4142 titles screened, the second reviewer screened 828 achieving an agreement rate of 87.31%; 105 differences were subsequently resolved. Out of the 430 abstracts screened, the second reviewer screened 86 with a 91.86% agreement rate and 7 differences resolved. Finally, of the 122 full text articles screened, the second reviewer screened 24 with a 100% agreement rate. Consensus was reached between the two reviewers for each case of initial disagreement by reviewing the inclusion/exclusion criteria.

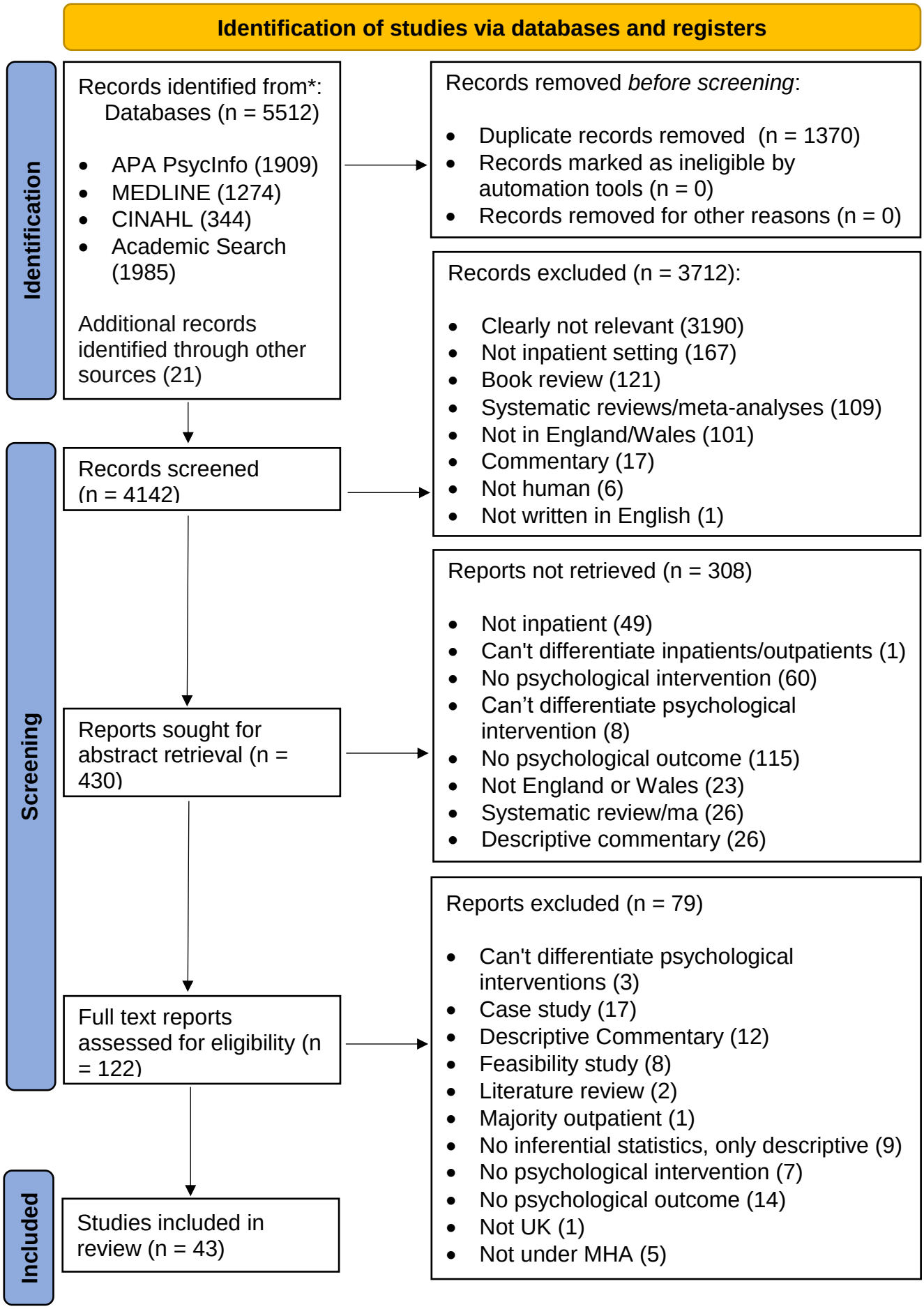

Figure 1. Prisma Flowchart showing systematic inclusion/exclusion criteria (n = 43).

Quality Assessment

To appraise the quality of each study included, the newly updated Critical Appraisal Skills Programme (CASP) (2021) guidelines for were used to generate high or low quality ratings. These guidelines consist of ten questions pertaining to validity, relevance and results of the research.

Systematic Review Themes

Outcome measure constructs were generally defined in line with the categories used by McIntosh et al. (2021) including: anger, empathy, coping skills, criminal attitudes, impulsivity, insight, locus of control, psychiatric symptoms, problem-solving ability, observed ward behaviour, self-esteem and recorded incidents of violence and aggression. Some specific psychiatric symptom measures were collected under a separate headings in this systematic review and three clusters (domains) of outcome emerged: General/Cross Domain, Forensic/Anger and Clinical Symptoms, which are presented in separate effect direction plots guided by criteria laid out by Thomson and Thomas (2013) to synthesis data using arrows, indicating effect direction and statistical significance. This was the preferred approach to synthesise the current sparse body of literature, as opposed to a meta-analysis, due to the lack of heterogeneity of outcome measures.

Results

Study Characteristics

Table 1. Participant Demographics (n = 43).

Participants	Total Studies
Mean Average Age (SD)	34.14 (4.20)
Male / Female %	77 / 23
White / Black / Other %	71 / 21 / 8
Study Size	
Average N (SD)	48.04 (51.84)
Average Intervention n (SD)	32.44 (33.74)
Average Control n (SD)	28.12 (23.14)
No. Small Studies: 1-50 Intervention n	84% (36/43)
No. Medium Studies: 50-300 Intervention n	16% (7/43)
No. Large Studies: >300 Intervention n	0% (0/43)
Inpatient Settings	
Low Secure	7% (3/43)
Medium Secure	28% (12/43)
High Secure	37% (16/43)
Mixed Secure	14% (6/43)
Unspecified ‘Secure’	2% (1/43)
Acute Psychiatric	7% (3/43)
Learning Disability	5% (2/43)
Study Designs	
RCT	21% (9/43)
NRCT	35% (15/43)
B&A (no control)	44% (19/43)
Blind Assessor	19% (8/43)
CASP Quality High	33% (14/43)
CASP Quality Low	67% (29/43)
Primary Diagnoses	
Serious Mental Illness *(mixed diagnoses, bipolar, MDD , schizophrenia, schizoaffective or PD)*	36% (16/43)
Specifically Psychosis / Schizophrenia	21% (9/43)
Specifically Personality Disorder	19% (8/43)
Dual Diagnosis	12% (5/43)

LD & Mental Health Difficulties	12% (5/43)

Intervention Type

**45 interventions as Quayle & Moore (1998) and Tibber et al. (2015) both used 2 different interventions*

Anger Management	4% (2/45)
CBT	22% (10/45)
DBT	9% (4/45)
Dramatherapy	2% (1/45)
ETS	2% (1/45)
FIP-MO	2% (1/45)
Functional Analysis	2% (1/45)
Living with/Understanding Mental Illness Programme	4% (2/45)
LMV-E	2% (1/45)
Mindfulness	2% (1/45)
Progressive Muscle Relaxation	2% (1/45)
R&R	7% (3/45)
R&R2 ADHD	2% (1/45)
R&R2 MHP	9% (4/45)
SFT	2% (1/45)
Social Problem Solving/Interpersonal Relations	4% (2/45)
Specific Drug & Alcohol Treatment	13% (6/45)
Transition Programme	2% (1/45)
VRP	2% (1/45)
Wellbeing Intervention	2% (1/45)
Manualised %	86% (37/43)
Group / Group & Individual / Individual %	56 / 25 / 19

Outcome Measures

Administered Pre-Post	63% (27/43)
Administered Pre-Post with Additional Follow Up	37% (16/43)
Clinical Symptom Measures	
Anxiety	16% (7/43)
Depression	21% (9/43)
Personality Disorder Symptoms	5% (2/43)
Psychotic Symptoms & Insight	21% (9/43)
Forensic/Anger Measures	
Anger/Verbal Aggression	47% (20/43)
Attitudes Towards Offending & Perceived Locus of Control	19% (8/43)
Empathy	5% (2/43)
Fire Setting	5% (2/43)
Sexual Offending Risk	0% (0/43)
Violence Risk	30% (13/43)

General/Cross Domain Measures	
General Distress/Wellbeing	23% (10/43)
Global Daily Functioning	9% (4/43)
Impulsiveness/Mindfulness	12% (5/43)
Individual Problem Solving/Coping	19% (8/43)
Maladaptive Schemas	2% (1/43)
Readiness to Change	9% (4/43)
Self-Esteem	19% (8/43)
Social Functioning	14% (6/43)
Social Problem Solving/Interpersonal Style	40% (17/43)
Substance Use	12% (5/43)

Of the forty three studies included, eighty-eight percent (n = 38) came from forensic 'secure' inpatient settings, compared to seven percent from 'acute' (n = 3) and five percent from LD (n = 2). Only twenty one percent of studies were RCTs (n = 9), compared to thirty five percent which were NRCTs (n = 15) and forty four percent which were uncontrolled B&A studies (n = 19); whilst only thirty three percent (n = 14) were rated as high quality and only nineteen percent (n = 8) had blind assessors. Inpatients mean age was mid-thirties (M = 34.14, SD = 4.20), of which seventy seven percent of participants were male and seventy one percent were white. Thirty four percent of studies (n = 15) featured participants with serious mental illness (including bipolar, major depressive disorder, schizophrenia, schizoaffective disorder, or personality disorder), whilst twenty one percent (n = 9) specifically targeted psychosis/schizophrenia and nineteen percent (n = 8) targeted personality disorder. Only twelve percent of studies used participants with a diagnosed LD (n = 5) and similarly only twelve percent trialled a targeted intervention on inpatients with a dual diagnosis (n = 5).

There were a range of interventions reported, however CBT was the most commonly featured in twenty two percent of all studies (n = 10), followed by various R&R programmes making up eighteen percent of studies (n = 8), drug and alcohol programmes making up thirteen percent (n = 6) and DBT used in nine percent of studies (n = 4). Similarly, a range of outcome measures were used. Notably, forty seven percent of studies used a measure of anger/verbal aggression (n = 20), forty percent measured social problem solving/interpersonal style (n = 17) and thirty percent measured risk of violence (n = 13). The most

commonly used clinical symptoms measures were for psychosis and depression, which both featured in twenty one percent of studies (n = 9, respectively), whilst general distress/wellbeing was also measured in twenty three percent (n = 10) of studies.

General/Cross Domain Outcomes

Table 2. The effect direction plot for studies using General/Cross Domain outcome measures.

General/Cross Domain Outcome Measures	Effect Direction		Intervention (n)	Format	Duration	Setting	Study Design	Control Group (n)	Study Quality
General Distress/Wellbeing									
Craven, R. & Shelton, L. (2020)	△	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Daffern et al. (2017)	△	*SR*	LMV-E (33)	G & I	125	H	NRCT	TAU (42)	High
Ferguson et al. (2009)	▲	*SR*	WI (14)	G	4*	M	B&A	N/A	Low
Fox et al. (2014)	▲	*CR*	DBT (29)	G & I	Not stated	L	B&A	N/A	Low
Hall, L. & Long, C. (2009)	◀▶	*SR*	PMR (19)	G	40.7	M	B&A	N/A	Low
Long et al. (2010)	▲	*CR*	CBT (29)	G & I	12*	M	NRCT	NC (15)	Low
Tapp et al. (2009)	◀▶	*SR*	ETSP (83)	G	Not stated	H	B&A	N/A	Low
Vallentine et al. (2010)	△	*SR*	UMI (31)	G	20	H	B&A	N/A	Low
Williams et al. (2014)	▽	*SR*	CBT (27)	G & I	25.5	H	RCT	NC (14)	High
Young et al. (2012)	▲	*SR*	R&R2-ADHD (16)	G & I	11*	M	NRCT	NC (15)	Low

Global Daily Functioning									
Craven, R. & Shelton, L. (2020)	▲	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Fox et al. (2014)	▲	*CR*	DBT (29)	G & I	Not stated	L	B&A	N/A	Low
Haddock et al. (2009)	▲	*CR*	CBT (38)	I	17	'Secure'	RCT	SAT (39)	High
Startup et al. (2004)	▲	*CR*	CBT (47)	I	12.9	Acute	RCT	NC (43)	High
Impulsiveness/Mindfulness									
Ashworth, S. & Brotherton, N. (2018)	◀▶	*CR*	DBT (12)	G	Not stated	LD	B&A	N/A	Low
Craven, R. & Shelton, L. (2020)	▲	*SR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Doyle et al. (2015)	◀▶	*SR*	SFT (29)	I	72	H	RCT	TAU (34)	High
Newton et al. (2005)	▲	*SR*	RP (9)	G	Not stated	H	B&A	N/A	Low
Young et al. (2012)	▲	*SR*	R&R2-ADHD (16)	G & I	11*	M	NRCT	NC (15)	Low
Individual Problem Solving/Coping									
Ashworth, S. & Brotherton, N. (2018)	▲	*CR*	DBT (12)	G	Not stated	LD	B&A	N/A	Low

Clarke et al. (2010)	▲	*SR*	R&R (18)	G	36	M	NRCT	TAU (17)	Low
Liddiard et al. (2019)	▲	*SR*	TP (18)	G	8	M	B&A	N/A	Low
Long et al. (2010)	▲	*SR*	CBT (29)	G & I	12*	M	NRCT	NC (15)	Low
Long et al. (2015)	▲	*SR*	LWMI (20)	G & I	10*	M	NRCT	NC (12)	Low
Tibber et al. (2015)	▲	*SR*	DDI – S 2 (37)	G	Not stated	L&M	B&A	N/A	Low
Yip et al. (2013)	▲	*SR*	R&R2-MHP (30)	G & I	12*	H	NRCT	NC (29)	Low
Young et al. (2010)	▲	*SR*	R&R2-MHP (58)	G & I	11*	M&H	NRCT	NC (12)	Low
Maladaptive Schemas									
Doyle et al. (2015)	▲	*SR*	SFT (29)	I	72	H	RCT	TAU (34)	High
Readiness to Change									
Daffern et al. (2017)	◀▶	*SR*	LMV-E (33)	G & I	125	H	NRCT	TAU (42)	High
Long et al. (2015)	▲	*SR*	LWMI (20)	G & I	10*	M	NRCT	NC (12)	Low
Tibber et al. (2015)	◀▶	*SR*	DDI – S1 (80)	G	Not stated	L&M	B&A	N/A	Low
Tibber et al. (2015)	◀▶	*SR*	DDI – S2 (37)	G	Not stated	L&M	B&A	N/A	Low

Self-Esteem

Craven, R. & Shelton, L. (2020)	▲	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Hall, P. L., & Tarrier, N. (2003)	▲	*SR*	CBT (12)	I	7	Acute	RCT	TAU (13)	High
Long et al. (2011)	▲	*SR*	SPS (15)	G	7*	M	NRCT	NC (9)	Low
Long et al. (2015)	▲	*SR*	LWMI (20)	G & I	10*	M	NRCT	NC (12)	Low
McInnis et al. (2006)	◀▶	*SR*	CBT Psychoed (9)	G	9	L	B&A	N/A	Low
Taylor et al. (2002)	▲	*SR*	FA (14)	G	40	L	B&A	N/A	Low
Tyler et al. (2017)	▲	*SR*	FIP-MO (63)	G & I	84	L&M&H	NRCT	NC (72)	High
Vallentine et al. (2010)	▲	*SR*	UMI (31)	G	20	H	B&A	N/A	Low

Social Functioning

Fox et al. (2014)	▲	*CR*	DBT (29)	G & I	Not stated	L	B&A	N/A	Low
Hall, P. L., & Tarrier, N. (2003)	▲	*SR*	CBT (12)	I	7	Acute	RCT	TAU (13)	High
Startup et al. (2004)	▲	*SR*	CBT (47)	I	12.9	Acute	RCT	NC (43)	High
Tapp et al. (2009)	▲	*SR*	ETSP (83)	G	Not stated	H	B&A	N/A	Low

Tyler et al. (2017)	◀▶	*SR*	FIP-MO (63)	G & I	84	L&M&H	NRCT	NC (72)	High
Young et al. (2012)	▲	*SR*	R&R2-ADHD (16)	G &I	13.33	M	NRCT	NC (15)	Low
Social Problem Solving/Interpersonal Style									
Ashworth, S. & Brotherton, N. (2018)	▲	*CR*	DBT (12)	G	Not stated	LD	B&A	N/A	Low
Clarke et al. (2010)	▲	*SR*	R&R (18)	G	36	M	NRCT	TAU (17)	Low
Cullen et al. (2011)	▲	*SR*	R&R (44)	G	36	M	RCT	TAU (40)	High
Daffern, et al. (2017)	▲	*SR*	LMV-E (33)	G & I	125	H	NRCT	TAU (42)	High
Doyle et al. (2015)	◀▶	*CR*	SFT (29)	I	72	H	RCT	TAU (34)	High
Jotangia et al. (2013)	▲	*SR*	R&R2 (18)	G	14.6	L & M	NRCT	TAU (20)	High
Long et al. (2011)	▲	*SR*	SPS (15)	G	7*	M	NRCT	NC (9)	Low
Moore et al. (2000)	▲	*SR*	FAw (8)	G	28	H	B&A	N/A	Low
Quayle, M. & Moore, E. (1998)	▲	*SR*	IPR(8)	G	Not stated	H	B&A	N/A	Low
Quayle, M. & Moore, E. (1998)	▲	*SR & CR*	AM (10)	G	Not stated	H	B&A	N/A	Low
Rees-Jones et al. (2012)	▲	*SR & CR*	R&R2-MHP (67)	G	15	L&M	NRCT	NC (54)	High
Tapp et al. (2009)	▲	*SR*	ETSP (83)	G	Not stated	H	B&A	N/A	Low

Tyler et al. (2017)	◀▶	*SR*	FIP-MO (63)	G & I	84	L&M&H	NRCT	NC (72)	High
Williams et al. (2014)	▲	*SR*	CBT (27)	G & I	25.5	H	RCT	NC (14)	High
Yip et al. (2013)	▲	*SR & CR*	R&R2-MHP (30)	G & I	12*	H	NRCT	NC (29)	Low
Young et al. (2010)	▲	*SR & CR*	R&R2-MHP (58)	G& I	11*	M&H	NRCT	NC (12)	Low
Young et al. (2012)	▲	*SR*	R&R2-ADHD (16)	G & I	13.33	M	NRCT	NC (15)	Low
Substance Use									
Cullen et al. (2012)	◀▶	*SR & CR*	R&R (44)	G	36	M	RCT	TAU (40)	High
Derry, A. & Batson, A. (2008)	▲	*CR*	SUTP (19)	G	18*	M	NRCT	TAU (9)	Low
Miles, H. (2015)	▲	*SR*	SUTP (33)	G	Not stated	M	NRCT	NC (12)	High
Morris, C. & Moore, E. (2009)	▲	*SR*	CBT (10)	G	Not stated	H	B&A	N/A	Low
Tibber et al. (2015)	▲	*SR*	DDI – S1 (80)	G	Not stated	L&M	B&A	N/A	Low

Key per column:

1. Outcome Measures:
    - General Distress/Wellbeing: Any measure of overall psychological wellbeing/levels of distress.
    - Global Daily Functioning: Any measure of overall daily functioning.
    - Impulsiveness/Mindfulness: Any measure of ability to notice what is happening in the present.
    - Individual Problem Solving/Coping: Any measure of ability to solve problems/life stressors.

- Maladaptive Schemas: Any measure of the construct ‘schema’.
- Readiness to Change: Any measure of readiness to engage in meaningful change.
- Self-Esteem: Any measure of the construct ‘self-esteem’.
- Social Functioning: Any measure of general social engagement/isolation.
- Social Problem Solving/Interpersonal Style: Any measure of ability to interact with others and verbally manage conflict.
- Substance Use: Any measure of substance misuse.

2. Effect Direction - Self Report (SR); Clinician Rated (CR):
    - Arrow size: Small (N = 0-50), Medium (N = 50-300), Large arrow (N >300)
    - Arrow shade: Black (over 60% of stats significant for effect direction), Grey (less than 60% of stats significant for effect direction)
    - Arrow direction: Up (over 70% of subscales indicate a positive effect direction), Down (over 70% of subscales indicate a negative effect direction), Sideways (less than 70% of subscales indicate the same effect direction)

3. Interventions:
    - AM: Anger Management.
    - CBT: Cognitive Behavioural Therapy
    - CBT Psychoed: Cognitive Behavioural Psychoeducation (not therapy)
    - DBT: Dialectical Behaviour Therapy
    - DDI – S 2: Dual Diagnosis Intervention (Stage 2)
    - ETSP: Enhanced Thinking Skills Programme
    - FA: Functional Analysis
    - FAw: Family Awareness Group
    - FIP-MO: Firesetting Intervention Programme for Mentally Disordered Offenders
    - IPR: Interpersonal Relationships Group
    - LMV-E: Life Minus Violence-Enhanced
    - LWMI: Living with Mental Illness Programme
    - Mindfulness
    - PMR: Progressive Muscle Relaxation
    - RP: Relapse Prevention
    - R&R: Reasoning and Rehabilitation Programme
    - R&R2: Reasoning and Rehabilitation Programme 2

- R&R2-ADHD: Reasoning and Rehabilitation for Youths and Adults with ADHD
- R&R2-MHP: Reasoning and Rehabilitation Mental Health Programme
- SFT: Solution Focussed Therapy
- SPS: Social Problem Solving Group
- SUTP: Substance Use Treatment Programme
- TP: Transition Programme
- UMI: Understanding Mental Illness Group
- WI: Wellbeing Intervention

4. Treatment Format: Group (G); Individual (I)

5. Treatment Duration: Mean Average Sessions *indicates minimum attended, where mean average was not reported

6. Setting: High Secure (H), Medium Secure (M), Low Secure (L), “secure”, Learning Disability (LD),”acute”,

7. Study Design: Randomised Controlled Trail (RCT), Non-randomised Controlled Trial (NRCT), Before and After (B&A),

8. Control Group:
    - N/A: Not applicable
    - TAU: Treatment as usual
    - NC: Non-completers
    - SAT: Social Activity Therapy

9. Study Quality: Low/High using Critical Appraisal Skills Programme (CASP) tool

General Psychological Distress/Wellbeing

Generally, psychological interventions were associated with improvements (n = 7), however a number did not meet statistical significance (n = 3). Most studies were uncontrolled B&As (n = 6) and the only RCT (Williams et al., 2014) showed a negative effect on psychological distress/wellbeing. The largest study (Tapp et al. (2009) also showed no improvement. Interventions varied with only CBT being used in more than one study (n = 2) and treatment always included a group component and half of the studies (n = 5) also included concurrent individual sessions. The mean number sessions (or minimum sessions offered) varied considerably and it was not always clearly reported (n = 3). All of the studies, of which only two were categorised as high quality (Daffern et al., 2017; Williams et al., 2014) took place in forensic secure settings, apart from one which was carried out on an LD ward.

Global Daily Functioning

Relatively few small studies (n = 4) in a mixture of secure, acute and LD settings measured global daily functioning and whilst all were associated with improvements, only two studies reported statistical significance. Within this small collection of studies, two RCTs (Haddock et al. (2009); Startup et al. 2004) measured the efficacy of CBT interventions using only individual sessions. Notably, CBT was shown to be associated with a statistically significant improvement compared to non-completers in an acute inpatient setting. It is not clear how many sessions were attended in the DBT (Fox et al., 2014) or mindfulness (Craven & Shelton, 2020) studies.

Impulsiveness/Mindfulness

No associated improvements were found by Ashworth & Brotherton (2018), or the only RCT (Doyle et al., 2015). The only statistically significant improvement is reported by Young et al. (2012) in relation to the efficacy of the R&R2-ADHD programme in a medium secure setting, using a small sample. Group interventions were most common (n = 4), with attendance inconsistently reported and omitted.

Individual Problem Solving/Coping

All studies measuring individual problem solving showed associated improvements and the majority were statistically significant (n = 6). Interventions and duration of attendance ranged considerably, with R&R2-MHP the only one intervention featured in multiple studies (n = 2). All studies, which took place in

secure settings apart one on an LD ward (Ashworth and Brotherton, 2018) featured a group intervention, with half (n = 4) having individual sessions running concurrently. All studies were considered low in quality, mainly due to the lack of randomisation and small sample sizes.

Maladaptive Schemas

Only one study (Doyle et al. 2015) reported this specific cross-domain construct. The evidence from this small scale RCT was rated as high quality, showing Solution Focussed Therapy (SFT) to be associated with improvements in maladaptive schemes compared to treatment as usual, however these improvements were not statistically significant in at least seventy percent of subscales.

Readiness to Change

The majority of the studies (n = 3) in this small subset found no change in readiness to change in association with group psychological interventions. Long et al. (2015) did find statistically significant improvement following the Living with Mental Illness (LWMI) programme compared to non-completers. All studies in this area were completed in forensic secure settings.

Self-Esteem

All studies apart from McInnis et al. (2006) found improvements in self-esteem to be associated with a range of psychological interventions (n = 7), of which four were statistically significant. Hall and Tarrier (2003) was the only study to use an individualised format to deliver CBT in a small scale RCT, which found statistically significant improvement in an acute setting. All of studies were completed in forensic inpatient settings; only Tyler et al. (2017) was rated as high quality.

Social Functioning

Only Tyler et al. (2017) found no associated improvement in social functioning. Three of the five other studies (Fox et al., 2014; Hall & Tarrier, 2003; Startup et al., 2004) showed statistically significant improvement, two of which were RCTs measuring the efficacy of CBT. All interventions involved a forensic group element apart from the CBT interventions delivered individually in an acute setting. Mean number of sessions ranged from seven (Hall & Tarrier, 2003) to eighty four (Tyler et al., 2017).

Social Problem Solving/Interpersonal Style

The vast majority of evidence (n = 15) of which two were RCTs and eight were NRCTs, indicate an improvement in social problem solving following various psychological interventions. However, only six of these studies showed statistically significant improvement (Ashworth & Brotherton, 2018; Clarke et al., 2010; Cullen et al., 2011; Moore et al., 2000; Tapp et al., 2009; Yip et al., 2013). It is also noteworthy that Tyler et al. (2017), a medium sized NRCT, found no improvement. All studies included a group format with considerable variation in attendance, apart from by Doyle et al. (2015) which found no change associated with individualised Solution Focussed Therapy in an RCT.

Substance Use

All studies were group interventions in forensic settings and improvements were generally reported (n = 4), with three studies reporting statistical significance. However, the only RCT (Cullen et al., 2012) showed no associated change. Attendance was also not reported in three of the studies.

Forensic/Anger Outcomes

Table 3. The effect direction plot for studies using Forensic/Anger outcome measures

Forensic/Anger Outcome Measures	Effect Direction		Intervention (n)	Format	Duration	Setting	Design	Control Group (n)	Study Quality
Anger/Verbal Aggression									
Craven, R. & Shelton, L. (2020)	▲	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Cullen et al. (2012)	▲	*CR*	R&R (44)	G	36	M	RCT	TAU (40)	High
Cullen et al.(2011)	▲	*SR*	R&R (44)	G	36	M	RCT	TAU (40)	High
Daffern et al. (2017)	▲	*SR*	LMV-E (33)	G & I	125	H	NRCT	TAU (42)	High
Doyle et al. (2015)	◀▶	*SR*	SFT (29)	I	72	H	RCT	TAU (34)	High
Evershed et al. (2003)	▲	*SR*	DBT (8)	G	Not stated	H	NRCT	TAU (9)	Low
Fox et al. (2014)	▲	*CR*	DBT (29)	G & I	Not stated	L	B&A	N/A	Low
Haddock et al. (2009)	◀▶	*SR*	CBT (38)	I	17	'Secure'	RCT	SAT (39)	High
Jotangia et al. (2013)	◀▶	*SR & CR*	R&R2 (18)	G	14.6	L & M	NRCT	TAU (20)	High
Long et al. (2010)	▲	*CR*	CBT (29)	G & I	12*	M	NRCT	NC (15)	Low
Novaco, R. & Taylor, J. (2015)	▲	*SR & CR*	CBT (50)	I	18	L&M&R	B&A	N/A	Low

Quayle, M. & Moore, E. (1998)	▲	*SR*	AM (10)	G	Not stated	H	B&A	N/A	Low
Rees-Jones et al. (2012)	▲	*SR*	R&R2-MHP (67)	G	15	L&M	NRCT	NC (54)	High
Reiss et al. (1998)	▲	*SR*	DT (12)	G	5	H	B&A	N/A	Low
Taylor et al. (2002)	▲	*SR*	FA (14)	G	40	L	B&A	N/A	Low
Taylor et al. (2005)	▲	*SR*	CBT (16)	I	Not stated	L&M&R	RCT	NC (20)	High
Tyler et al. (2017)	▲	*SR*	FIP-MO (63)	G & I	84	L&M&H	NRCT	NC (72)	High
Wilson et al. (2013)	▲	*SR*	AM (70)	G	17	H	NRCT	NC (16)	High
Yip et al. (2013)	◀▶	*SR*	R&R2-MHP (30)	G & I	12*	H	NRCT	NC (29)	Low
Young et al. (2012)	▲	*SR*	R&R2-ADHD (16)	G & I	13.33	M	NRCT	NC (15)	Low
Attitudes Towards Offending & Perceived Locus of Control									
Clarke et al. (2010)	▲	*SR*	R&R (18)	G	36	M	NRCT	TAU (17)	Low
Cullen et al. (2011)	▲	*SR*	R&R (44)	G	36	M	RCT	TAU (40)	High
Jotangia et al. (2013)	▲	*SR*	R&R2 (18)	G	14.6	L & M	NRCT	TAU (20)	High
Newton et al. (2005)	▲	*SR*	RP (9)	G	Not stated	High	B&A	N/A	Low

Rees-Jones et al. (2012)	▲	*SR*	R&R2-MHP (67)	G	15	L&M	NRCT	NC (54)	High
Tapp et al. (2009)	▲	*SR*	ETSP (83)	G	Not stated	H	B&A	N/A	Low
Taylor et al. (2002)	▲	*CR*	FA (14)	G	40	L	B&A	N/A	Low
Tyler et al. (2017)	◀▶	*SR*	FIP-MO (63)	G & I	84	L&M&H	NRCT	NC (72)	High
Empathy									
Cullen, et al. (2011)	◀▶	*SR*	R&R (44)	G	36	M	RCT	TAU (40)	High
Daffern et al. (2017)	◀▶	*SR*	LMV-E (33)	G & I	125	H	NRCT	TAU (42)	High
Fire Setting									
Taylor et al. (2002)	▲	*SR*	FA (14)	G	40	L	B&A	N/A	Low
Tyler et al. (2017)	▲	*SR*	FIP-MO (63)	G & I	84	L&M&H	NRCT	NC (72)	High
Sexual Offending Risk									
No studies found									

Violence Risk

Craven, R. & Shelton, L. (2020)	▲	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Cullen et al. (2012)	▲	*CR*	R&R (44)	G	36	M	RCT	TAU (40)	High
Daffern et al. (2017)	▲	*CR*	LMV-E (33)	G & I	125	H	NRCT	TAU (42)	High
Evershed et al. (2003)	▲	*CR*	DBT (8)	G	Not stated	H	NRCT	TAU (9)	Low
Haddock et al. (2009)	◀▶	*CR*	CBT (38)	I	17	'Secure'	RCT	SAT (39)	High
Horgan et al. (2019)	▲	*CR*	VRP (27)	G	Not stated	M	B&A	N/A	Low
Jotangia et al. (2013)	▲	*SR*	R&R2 (18)	G	14.6	L & M	NRCT	TAU (20)	High
Novaco, R. & Taylor, J. (2015)	▲	*CR*	CBT (50)	I	18	L&M&R	B&A	N/A	Low
Rees-Jones et al. (2012)	▲	*SR*	R&R2-MHP (67)	G	15	L&M	NRCT	NC (54)	High
Wilson et al. (2013)	▲	*CR*	AM (70)	G	17	H	NRCT	NC (16)	High
Yip et al. (2013)	▲	*SR*	R&R2-MHP (30)	G & I	12*	H	NRCT	NC (29)	Low
Young et al. (2010)	▲	*SR*	R&R2-MHP (58)	G & I	11*	M&H	NRCT	NC (12)	Low
Young et al. (2012)	▲	*SR*	R&R2-ADHD (16)	G & I	13.33	M	NRCT	NC (15)	Low

Key per column:

1. Outcome Measures:
    - Anger/Verbal Aggression: Any measure of anger or verbal aggression.
    - Attitudes towards Offending/Perceived Locus of Control: Any measure of beliefs around responsibility for behaviour.
    - Empathy: Any measure of empathy towards those affected by behaviour.
    - Fire Setting: Any measure of risk regarding fire setting behaviour.
    - Sexual Offending Risk: Any measure of risk regarding inappropriate sexual behaviour.
    - Violence Risk: Any measure of risk regarding inappropriate sexual behaviour.

2. Effect Direction - Self Report (SR); Clinician Rated (CR):
    - Arrow size: Small (N = 0-50), Medium (N = 50-300), Large arrow (N >300)
    - Arrow shade: Black (over 60% of stats significant for effect direction), Grey (less than 60% of stats significant for effect direction)
    - Arrow direction: Up (over 70% of subscales indicate a positive effect direction), Down (over 70% of subscales indicate a negative effect direction), Sideways (less than 70% of subscales indicate the same effect direction)

3. Interventions:
    - AM: Anger Management.
    - CBT: Cognitive Behavioural Therapy
    - DBT: Dialectical Behaviour Therapy
    - DT: Dramatherapy
    - FA: Functional Analysis
    - FIP-MO: Firesetting Intervention Programme for Mentally Disordered Offenders
    - LMV-E: Life Minus Violence-Enhanced
    - Mindfulness
    - RP: Relapse Prevention
    - R&R: Reasoning and Rehabilitation Programme
    - R&R2: Reasoning and Rehabilitation Programme 2
    - R&R2-ADHD: Reasoning and Rehabilitation for Youths and Adults with ADHD
    - R&R2-MHP: Reasoning and Rehabilitation Mental Health Programme

- VRP: Violence Reduction Programme

4. Treatment Format: Group (G); Individual (I)

5. Treatment Duration: Mean Average Sessions *indicates minimum attended, where mean average was not reported

6. Setting: High Secure (H), Medium Secure (M), Low Secure (L), “secure”, Learning Disability (LD),”acute”,

7. Study Design: Randomised Controlled Trail (RCT), Non-randomised Controlled Trial (NRCT), Before and After (B&A),

8. Control Group:
    - N/A: Not applicable
    - TAU: Treatment as usual
    - NC: Non-completers
    - SAT: Social Activity Therapy

9. Study Quality: Low/High using Critical Appraisal Skills Programme (CASP) tool

Anger/Verbal Aggression

Out of the twenty studies reported, improvements in anger/verbal aggressions (n = 16) were commonly associated with psychological interventions, which varied in group/individual format and all took place in forensic inpatient settings. Out of these studies, only six reported statistically significant associated improvements. Twelve of the studies reporting improvements only used self-report measures, whilst four did also included clinician ratings. Psychological interventions were varied, whilst R&R (n = 6) and CBT (n = 4) made up half the body of evidence. The largest RCT (Haddock et al., 2009) found no change associated with CBT, when compared to Social Activity Therapy (SAT). Intervention duration was inconsistently reported and often omitted.

Attitudes Towards Offending

Improvements were generally reported (n = 7) whilst only two studies showed statistically significant change. Tyler et al. (2017), the largest controlled trial, found no change across low, medium and high secure settings. All studies included a group format in a forensic setting and the treatment duration varied considerably from a mean of fifteen sessions (Rees-Jones et al., 2012) to eighty four sessions (Tyler et al., 2017). Half of the studies (n = 4) were measuring the efficacy of variations of the R&R programme.

Empathy

Only two studies measured empathy (Cullen et al., 2011; Daffern et al., 2017). Both were rated as high quality studies and neither found reliable change in forensic inpatient settings.

Fire Setting

Only two studies measured risk of fire setting in forensic inpatient settings (Taylor et al., 2002; Tyler et al., 2017) using self-report measures. Both found associated improvements, whilst only Taylor et al. (2002), rated as lower quality without a control group, reported statistically significant improvements across at least seventy percent of subscales.

Sexual Offending Risk

No studies in England and Wales between 1990-2021 were found to measure the efficacy of psychological interventions to reduce sexual offending risk.

Violence Risk

Thirteen studies were included in relation to violence risk and improvements were generally reported (n = 12). Only six of these studies which varied in group/individual format were reported to be statistically significant, with a 50/50 split in clinician outcome measure ratings as opposed to self-report. Psychological interventions were varied, however similarly to findings in relation to anger and verbal aggression, a closely related construct, R&R (n = 6) and CBT (n = 2) made up over half the body of evidence. The largest RCT (Haddock et al., 2009) found no change associated with CBT, when compared to Social Activity Therapy (SAT) – again, similarly to anger and verbal aggression.

Clinical Symptoms Outcomes

Table 4. The effect direction plot for studies using Clinical Symptoms outcome measures.

Clinical Symptoms Outcome Measures	Effect Direction		Intervention (n)	Format	Duration	Setting	Design	Control Group (n)	Study Quality
Anxiety									
Craven, R. & Shelton, L. (2020)	▲	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Ferguson et al. (2009)	▲	*SR*	WI (14)	G	4*	M	B&A	N&A	Low
Hall, L. & Long, C. (2009)	▲	*SR*	PMR (19)	G	40.7	M	B&A	N&A	Low
Hall, P. L., & Tarrier, N. (2003)	◀▶	*SR*	CBT (12)	I	7	Acute	RCT	TAU (13)	High
Liddiard et al. (2019)	▲	*SR*	TP (18)	G	8	M	B&A	N/A	Low
Long et al. (2010)	▲	*CR*	CBT (29)	G & I	12*	M	NRCT	NC (15)	Low
Williams et al. (2014)	▲	*SR*	CBT (27)	G & I	25.5	H	RCT	NC (14)	High
Depression									
Craven, R. & Shelton, L. (2020)	▲	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Ferguson et al. (2009)	▲	*SR*	WI (14)	G	4*	M	B&A	N/A	Low
Hall, L. & Long, C. (2009)	▲	*SR*	PMR (19)	G	40.7	M	B&A	N/A	Low
Hall, L. & Tarrier, N. (2003)	◀▶	*SR*	CBT (12)	I	7	Acute	RCT	TAU (13)	High
Long, et al. (2010)	▲	*CR*	CBT (29)	G & I	12*	M	NRCT	NC (15)	Low

Long et al. (2011)	▲	*SR*	SPS (15)	G	7*	M	NRCT	NC (9)	Low
Low et al. (2001)	▲	*SR*	DBT (10)	G & I	Not stated	H	B&A	N/A	Low
Taylor et al. (2002)	▲	*SR*	FA (14)	G	40	L	B&A	N/A	Low
Williams et al. (2014)	▲	*SR*	CBT (27)	G & I	25.5	H	RCT	NC (14)	High
Personality Disorder Symptoms									
Fox et al. (2014)	▲	*CR*	DBT (29)	G & I	Not stated	L	B&A	N/A	Low
Low et al. (2001)	▲	*SR & CR*	DBT (10)	G & I	Not stated	H	B&A	N/A	Low
Psychotic Symptoms & Insight									
Craven, R. & Shelton, L. (2020)	▲	*CR*	Mindfulness (7)	G	Not stated	LD	B&A	N/A	Low
Ferguson et al. (2009)	▲	*CR*	WI (14)	G	4*	M	B&A	N/A	Low
Haddock et al. (2009)	▲	*CR*	CBT (38)	I	17	'Secure'	RCT	SAT (39)	High
Hall, P. L., & Tarrier, N. (2003)	▲	*CR*	CBT (12)	I	7	Acute	RCT	TAU (13)	High
Lewis et al. (2002)	▲	*CR*	CBT (209)	I	16.1	Acute	RCT	SC (106)	High
Long et al. (2015)	▲	*SR & CR*	LWMI (20)	G & I	10*	M	NRCT	NC (12)	Low
McInnis et al. (2006)	▲	*SR & CR*	CBT Psychoed (9)	G	9	L	B&A	N/A	Low
Startup et al. (2004)	▲	*CR*	CBT (47)	I	12.9	Acute	RCT	NC (43)	High
Williams et al. (2014)	▲	*CR*	CBT (27)	G & I	25.5	H	RCT	NC (14)	High

Key per column:

1. Outcome Measures:
    - Anxiety: Any measure of clinical symptoms of an anxiety disorder.
    - Depression: Any measure of clinical symptoms of a depressive disorder.
    - Personality Disorder: Any measure of clinical symptoms of a personality disorder.
    - Psychotic Symptoms & Insight: Any measure of clinical symptoms and/or changes in insight into symptoms of a psychotic disorder.

2. Effect Direction - Self Report (SR); Clinician Rated (CR):
    - Arrow size: Small (N = 0-50), Medium (N = 50-300), Large arrow (N >300)
    - Arrow shade: Black (over 60% of stats significant for effect direction), Grey (less than 60% of stats significant for effect direction)
    - Arrow direction: Up (over 70% of subscales indicate a positive effect direction), Down (over 70% of subscales indicate a negative effect direction), Sideways (less than 70% of subscales indicate the same effect direction)

3. Interventions:
    - CBT: Cognitive Behavioural Therapy
    - CBT Psychoed: Cognitive Behavioural Psychoeducation (not therapy)
    - DBT: Dialectical Behaviour Therapy
    - FA: Functional Analysis
    - LWMI: Living with Mental Illness Programme
    - Mindfulness
    - PMR: Progressive Muscle Relaxation
    - SPS: Social Problem Solving Group
    - TP: Transition Programme
    - WI: Wellbeing Intervention

4. Treatment Format: Group (G); Individual (I)

5. Treatment Duration: Mean Average Sessions *indicates minimum attended, where mean average was not reported

6. Setting: High Secure (H), Medium Secure (M), Low Secure (L), “secure”, Learning Disability (LD),”acute”,

7. Study Design: Randomised Controlled Trail (RCT), Non-randomised Controlled Trial (NRCT), Before and After (B&A),

8. Control Group:
    - N/A: Not applicable
    - TAU: Treatment as usual
    - NC: Non-completers
    - SAT: Social Activity Therapy
    - SC: Supportive Counselling

9. Study Quality: Low/High using Critical Appraisal Skills Programme (CASP) tool

Anxiety

Improvements were reported in the majority of studies (n = 6) which all featured a group format, apart from an RCT by Hall and Tarrier (2003) which showed no change associated with individual CBT compared to treatment as usual. Only two studies reported statistically significant change (Hall & Long, 2009; Long et al., 2010). There was a range of interventions included, but CBT (n = 3) was the most common. Most of the studies were rated as low quality, with neither of the RCTs rated high quality showing statistically significant improvements. Studies in forensic inpatient settings were the most frequently included (n = 5) compared to LD (n = 1) and acute (n = 1).

Depression

Similarly to interventions for anxiety, improvements were reported in the majority of studies (n = 8) where interventions were delivered in a group format, apart from the RCT by Hall and Tarrier (2003) which showed no change associated with individual CBT compared to treatment as usual. Only two studies reported statistically significant change (Hall & Long, 2009; Long et al., 2010) and the mean treatment duration differed between studies. Similarly again to the studies measuring efficacy of psychological interventions for anxiety, the majority were forensic inpatient settings (n = 7) compared to LD (n = 1) and acute (n = 1).

Personality Disorder Symptoms

Only two studies measured symptomology associated with personality disorder, both in forensic inpatient settings (Fox et al., 2014; Low et al., 2001). Both found statistically significant improvements associated with Dialetical Behavioural Therapy (DBT) interventions. Both studies were rated as low quality without a control group.

Psychotic Symptoms & Insight

All studies included featured clinician ratings (n = 9) and improvements were reported in all of these studies, of which five studies measured the efficacy of CBT and one other featured group CBT psychoeducation. Only three studies reported statistically significant improvements though (Hall & Tarrier, 2003; Long et al., 2015; Startup et al., 2004). The majority of studies were RCTs (n = 5), with one NRCT and three B&A studies.

Discussion

On the whole, the limited evidence base available indicates that psychological interventions are associated with improvements in overall psychological distress and wellbeing, individual problem solving/coping, self-esteem, social functioning, social problem solving, substance misuse, anger/verbal aggression, attitudes towards offending, fire setting, violence risk, symptoms of anxiety, depression, personality disorder and psychosis. This generally fits with previous evidence syntheses from Paterson et al. (2018) and McIntosh et al. (2021) which included data outside of England and Wales. However it should be noted that the limited evidence base synthesised in the current review, does not suggest that psychological interventions for those detained under the MHA are effective in improving: global daily functioning, impulsiveness/mindfulness, readiness to change, empathy, or sexual offending risk.

It is important to emphasise the context in which this review is presented, with evidence generally being sparse across all settings for all outcome measures. Anger, verbal aggression and risk of violence garnered the most attention of studies included, however this evidence too is sparse and limited in nature with few RCTs, of which even fewer exceed an intervention group size of fifty. Moreover there has been particularly little research outside the forensic context, especially on acute psychiatric wards, with few studies reporting psychiatric symptom measures. This sparsity makes it difficult to make meaningful comparisons between intervention types and formats to ascertain which interventions may be most effective. It was surprising that no third wave CBT interventions featured in the systematic review at all, despite the growing application in clinical practice (Hayes and Hofmann, 2017). Even CBT (n = 10) and R&R programmes (n = 8), which are arguably the current gold standard in acute and forensic settings respectively (Hofmann et al., 2012; Tong & Farrington, 2006), have a limited evidence base currently in inpatient settings in England and Wales, whilst many other intervention types are represented in this review by a single study. This also makes comparison with community outcomes limited, and means that primarily, psychological interventions delivered in these settings must make assumptions about applicability drawn from the broader clinical literature and evidence base. This sparsity in data may be somewhat due to the variable accessibility to therapy observed within inpatient settings (Association of Clinical Psychologists UK, 2021). It has been estimated that only 29% of inpatients receive some form of ‘talking therapy’ (BPS,

2012) and a review by The Regulation and Quality Improvement Authority (2015) found a high prevalence of poor organisation and governance of psychological therapies and unclear referral pathways. Which may, in addition to methodological challenges associated with inpatient settings, be contributing to the sparsity of outcome data for psychological interventions that take place under the MHA.

There are a number of other notable study characteristics that warrant discussion, to inform how future research may address the current gaps in the evidence base. Firstly, the evidence base lacks studies from low secure, acute and LD inpatient wards – so whilst all participants included in this review are detained under sections of the MHA, their inpatient experience will be variable depending on the facility where they reside and receive psychological interventions. There is also a limited number of RCTs in relation to all settings and interventions and most studies were small in size and rated as low quality (n =29). Moreover, the RCTs that are reported in this review typically only measure the efficacy of CBT interventions. This is particularly problematic when drawing conclusions from the synthesised data, as B&A study designs included often reported statistically significant results, but they do not control for the effect of being admitted to an inpatient ward and the potential therapeutic gains from treatment experiences outside of the psychological intervention. The Schizophrenia Commission (2012) highlighted the important mediating role of ward environment in patients' therapeutic recovery. Whilst NRCT designs do account for this, the lack of randomisation or inclusion of blind assessors is likely to increase bias and therapy-attributed improvements in the results reported (Paterson et al., 2018). There was also a general theme, whereby positive changes on outcome measures were highlighted, however this change was often not found to be statistically significant on seventy percent or more of the outcome measure subscales, which was the threshold used in this review for statistical significance.

Other concerns pertaining to the characteristics of studies featured include the danger of using non-completers as the control group, as this can create a biased comparison with an arbitrary cut-off for what quantifies non-completion determined by researchers (Armijo-Olivo et al., 2009). 'Intention to treat' approaches to analysis may particularly address this bias in future research, but will rely on a much more robust and developed literature of trial-based research. Additionally, only 37% of studies followed up on

inpatients after the pre-post measures were obtained in relation to a psychological intervention. Studies have shown (Knekt et al., 2007) that short-term therapies result in quicker benefits, but longer term therapy may yield better outcomes after long-term follow up, so the relative absence of this data limits our insight into how psychological intervention translates to long term outcomes, on the ward and in the community.

There is finally a particular issue in regard to measures. Many measures used appear to be focussed primarily on variables which may not directly translate to the clinical or behavioural changes which are of greatest importance to the reasons for detention in hospital. For instance, concepts such as problem solving or social functioning may be clinically important in many respects, but it is speculative whether, on a group level, such improvements translate into more concrete outcomes such as reduced length of stay. Additionally, in some cases, attitudinal measures, for instance, often seem to be favoured over behavioural ones, some of which (e.g. empathy, violent attitudes) may be criticised further for demonstrating significant demand characteristics. Further, many measures have not been validated in the inpatient population (Chambers et al., 2009) and so this, in conjunction with limited community follow up in the studies included, also limits what conclusions can be drawn from this synthesis of the data. The nature of detention under the MHA is also likely to interact with self-report measures (given there is often an inherent incentive to minimise reporting of symptoms), however many studies reported did not use a combination of self-report, clinician-ratings and/or behavioural data such as readmission of reoffending rates. Studies did not consistently report the average number of sessions attended and 'treatment as usual' was often loosely defined, again limiting the conclusions that can be drawn despite most interventions being manualised, and thus in theory, more easily replicable.

Furthermore, participants included in the studies were mainly working age white males and few had a primary diagnosis of affective disorders such as depression or anxiety. This is despite figures from NHS Digital (2021) showing black people are more than four times as likely as white people to be detained under the Mental Health Act (321.7 detentions per 100,000 people, compared with 73.4, respectively), so there may be differences in outcomes of psychological interventions depending on factors of social difference, which the current body of evidence cannot speak to. Additionally, the evidence lacks findings regarding the

efficacy of third wave CBT interventions, highlighting the dissonance between the therapies being practiced and current research being conducted (Mallion et al., 2020).

Limitations

A major limitation of this form of evidence synthesis is that effect size cannot be inferred from the effect direction plots. Whilst guidance from Thomson and Thomas (2013) was adhered to in visualising effects found, the inclusion of B&A studies risks this being misleading as the arrow size doesn't automatically correspond with study quality ratings. Whereby, an intervention group including 50-300 participants (medium arrow) may be rated as low quality if it has adopted a B&A design, whilst a smaller RCT study may have a smaller sized arrow, but be rated as high quality. In addition to the benefits linked to reporting synthesised effect size, a meta-analysis would also have provided more insight into differences between self-report and clinician rated measures where bias may arise (Althubaiti, 2016), as well as any effect of blind ratings as previously shown by Paterson et al. (2018). The overlap in outcome measure groups is another factor that means the data should be considered as a whole rather than in isolation. Arguably, anger/verbal aggression and social problem solving are both indicators of violence risk and could have been grouped together, however this was opted against in this review due to some violence measures being recorded violent behaviour on the ward, and so considered a separate operationalisable construct to non-violent aggression. The exclusion criteria also skewed the interventions synthesised, as single case studies were not included, resulting in this review predominantly featured group-based interventions, with a few individualised CBT exceptions.

Future reviews may also benefit from not grouping forensic, acute and LD settings together, as has been done in this review. As the average stay on a medium and high secure forensic units before discharge into the community is fourteen years (Vollm et al., 2018), while acute admissions can vary significantly, but are typically less than ninety days (NHS Confederation Mental Health Network, 2012). Hence, the duration of stay and therapeutic focus makes these forms of detention under the MHA distinctly different, in a similar vain to how treatment in the community may last longer and not be interrupted by discharge.

Conclusions

From this evidence synthesis, it is not possible to conclude the extent to which efficacy of community psychological interventions is mirrored in inpatient settings, in those detained under the MHA. The sparse literature in England and Wales does however provide a very preliminary indication that efficacy of psychological treatment whilst detained under the MHA is similar to that synthesised using studies from other countries. It is recommended that to begin to plug the identified gaps in the literature, there needs to be larger scale (intervention N >300) multi-site RCTs with risk of bias minimised through blind assessors and a combination of measures including self-report, clinician rated and behavioural indicators (such as incident, readmission and reoffending rates). Measures need to focus on outcomes that are of most paramount importance to the reasons for a person's admission and direct clinical symptomatology. Control groups, where possible, would benefit from being 'intention to treat' rather than 'non-completers' to further reduce bias and more detailed information when defined as 'treatment as usual'. Preferably, RCTs will administer follow up measures that enable outcomes to be measured once participants are no longer detained under the MHA. Clear reporting of sessions offered and attended will also help analyses of cost-effectiveness between interventions.

This suggested research needs to take place across a broader range of inpatient settings than the current body of evidence contains, particularly more low secure, acute and LD inpatient settings. Some studies are also needed with stratified sampling of under-represented female and non-white groups. The primary diagnostic focus of future research (and corresponding outcome measures) also needs to give more consideration to treatment efficacy for affective disorders.

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Chapter 3. Bridging Chapter

The purpose of this chapter is to provide an overview of how the systematic review (Chapter 2) and the empirical research project (Chapter 4) are connected. The theme running through both chapters is the real-world application of the Mental Health Act (MHA) (1983); whereby the systematic review is the first of its kind to synthesise the evidence in England and Wales pertaining to how effective psychological interventions are for those detained under the MHA and the empirical project is the first quantitative study to explore how reliably decisions are made around detention and subsequent treatment under s.37/41 and s.45a of the MHA. Despite looking at quite different MHA-related issues, there is a clear linkage between the studies, since the efficacy of psychological interventions whilst detained under the MHA is likely to influence decisions made regarding the appropriateness of treatment in secure hospital for mentally disordered offenders (MDOs). That is, without effective treatment in hospital, there is little purpose to detention, and as our understanding of mental health problems develops to further emphasise the importance of the role of psychological treatments as a 'front line' rather than 'adjunctive' treatment, one would expect the proportionate emergence of research activity to better understand what psychological treatments work best, and for whom, and in which settings. Certainly, one might ask how a judge is expected to reliably answer questions of the 'most appropriate' regime, or likely treatment outcome, without reference to a clear evidence base of the available treatments. In this light, the novelty of the Systematic Review, as well as the arguably patchy evidence base which it reflects, is all the more startling.

This consideration explicitly forms part of the *Vowles* sentencing criteria which is explored in Chapter 4, yet, prior to Chapter 2, no systematic review had specifically synthesised the data in England and Wales to provide insight into the efficacy of psychological interventions for those detained under the MHA.

Both chapters seek to fill gaps in the knowledge around the MHA and highlight where future research can continue to build on the evidence base in this unique inpatient context. In Chapter 5, the main findings from both the systematic review and empirical research project are discussed. The combined strengths, limitations, clinical and theoretical implications of both are also presented, with suggestions for future research.

Chapter 4. Empirical Project

Sentencing of Mentally Disordered Offenders[1] (MDOs) in the courts: an experimental clinical vignette to explore the reliability of judgements made using *Vowles* and the relationships between psychiatric diagnosis, mental health locus of origin and final sentencing outcome.

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(Author guidelines for manuscript preparation – Appendix C)

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[1] The term "Mentally Disordered Offender" is used, consistent with wider use in research, clinical and government literature; however, it is recognised the term "disorder" itself may suggest notions of bio-medical causality that could be critiqued from a different view.

Abstract

In England and Wales, mental health difficulties are highly prevalent in the criminal justice system compared to wider society. Despite this, little is known about how perceptions of diagnoses, treatment, culpability and eventual release back into the community, may influence how consistently sentencing criteria laid out in R v *Vowles* are applied to determine an appropriate sentence for mentally disordered offenders (MDOs). This randomised between-groups experiment is the first quantitative study to explore how consistently *Vowles* criteria are applied and how consistently final sentencing outcomes are determined, as well as how diagnostic terms and beliefs about the aetiology of mental health difficulties interact with this decision-making process. Overall, sentencing outcomes were weighted towards custodial options with 77.27% having a custodial element compared to 22.73% of sentences being hospital orders with no custodial element. Beliefs about the origins of mental health difficulties appeared to mediate the application of some *Vowles* criteria and were associated with different sentencing outcomes depending on the diagnosis in the vignette. Contrasting effects were observed between schizophrenia and emotionally unstable personality disorder (EUPD), with more biogenetic beliefs on the Mental Health Locus of Origin Scale (Bale and Hill, 1980) associated with an increased likelihood of a hospital disposal where the vignette diagnosis was EUPD and a higher chance of a custodial outcome for those diagnosed with schizophrenia. These findings suggest the sentencing of MDOs requires further safeguards against personal bias; further exploration in a senior judiciary sample is now required.

Introduction

In England and Wales, judges must decide whether custody (prison) or a secure hospital is most appropriate when sentencing mentally disordered offenders (MDOs) for serious crimes. Around 111,000 people are sent to prison every year (Ministry of Justice, 2018b) and the prevalence of mental health problems amongst the prison population is high. A review by the National Audit Office (2017) showed that thirty-seven percent of prisoners suffered from mental health problems whilst only twenty five percent of these prisoners were receiving treatment. This high level of mental health need occurs in a prison system that is has been described as "under-resourced, nurse-led, overwhelmed by referrals and offering a limited range of interventions" (Durcan & Knowles, 2006, p.23). The alternative is for MDOs to be sent to a secure hospital which can vary in security level - high, medium or low - depending on the level of danger posed to others and risk of absconsion. Secure hospital beds, however, are reserved for a small section of MDOs, with approximately 8000 beds available nationally (NHS Commissioning Board (now known as NHS England), 2013), compared to approximately 80,000 prison places (Ministry of Justice, 2018a). The average cost of a secure hospital bed is approximately £190,000 (Department of Health, 2015), compared to £40,000 for a prison bed (Ministry of Justice, 2019). Because the most important determinant of whether somebody is sent to secure hospital or prison is the type of sentence they receive in court, given the context of limited supply and high demand, the court sentencing process needs to be able to consistently determine who would most benefit from secure hospital treatment. Currently, research into the role of a defendant's mental health problems in the courtroom and the process of sentencing a defendant with mental health problems is sparse (Bradley Report, 2009).

To understand how the sentencing decision is made between a secure hospital versus prison 'disposal', a brief overview of the legal precedent and guidelines is necessary. First, once a defendant is determined to be guilty - either through a plea, or a jury verdict - the subsequent sentencing process in England and Wales gives significant weight to the concept of culpability (Sentencing Council, 2020). Culpability is one element of the overall 'mental component' of a criminal act, collectively referred to as 'mens rea'. It relates to whether there was intent to commit a crime, or knowledge that an act or omission to act, would likely result in a crime taking place. If culpability is considered high, then sentencing is more

likely to be weighted towards the need for punishment. For MDOs charged with serious offences tried in Crown Courts where guidelines mandate a prison sentence, the judge is faced with an often difficult task of assessing the psychiatric evidence to consider whether to issue a restricted hospital order (s.37/41 under the Mental Health Act (hereafter MHA) (1983), instead of prison. Following more recent guidance, reviewed presently, judges are also able to consider the option of a 'hybrid order' under s.45a of the MHA.

The hybrid order (s.45a) was added by the Crime (Sentences) Act (1997) to the MHA to enable provision of a prison sentence to run concurrently with a restricted hospital order (s.37/41). Since the 2007 revisions to the Mental Health Act (Mental Health Act, 2007), restrictions in application of s.45a were removed (it had previously been only available to offenders classified as having 'psychopathic disorder'; this classification process no longer exists). It fundamentally differs from a standalone s.37/41, in that if mental health treatment is no longer required, the MDO has to be transferred to prison to complete the remainder of their sentence, rather than be released into the community. Decisions about community release under s.45A are therefore made by a parole board and then managed in the community by probation, which is the same process as prison. Whereas, under s.37/41, release is decided by a Ministry of Justice (MOJ) Mental Health Review Tribunal and then managed in the community by a forensic mental health team. Furthermore, a s.37/41 disposal is made without limit of time; there is no specified point of expiry (and thus release) as there is with a custodial sentence (or a s.45a). In reality, this may mean that somebody sentenced to a s.37/41 may spend either much more or much less time in detention than somebody given a custodial sentence convicted of the same offence. There are many other practical differences between the different options, including in the options for treatment available in the two environments, but a full review is outside the scope of this chapter. For present purposes, the critical point is that the decision made at sentencing has significant implications for the journey, experience and subsequent process of release for a defendant with mental health problems convicted of a serious offence.

Recent case law has given guidance to judges facing such a decision. *R v Edwards* (2018) highlighted that in cases where a secure hospital order may be appropriate, the judge should first still consider all other options, including a prison sentence or the s.45a hybrid order. Judges are therefore

required to account for the 'penal element' of the sentence by considering '*the offender's culpability and the harm caused by the offence'*. This draws more generally on the various purposes of sentencing outlined in s.57 of the Sentencing Act 2020 (previously s.142 of the Criminal Justice Act, 2003), which specifically includes punishment (although this aim does not apply where a s.37 disposal is given). To aid this decision, the *Edwards* guidelines built on the criteria below, laid down in another key piece of case-law, *R v Vowles* (2015). This piece of case law outlines four considerations for judges to make when determining whether the penal element is required (s.45a hybrid order, or prison), or whether a s.37/41 restricted hospital order can be issued with no minimum sentence stipulated:

(1) the extent to which the offender's mental health requires treatment

(2) the extent to which offending is attributable to the mental health disorder

(3) the extent to which offending requires punishment

(4) the protection of the public when deciding release and regime of release

Whilst the final sentencing outcome is a decision made by the judge, they will be informed by psychiatric, and sometimes psychological, evidence in regard to the defendant's mental health. If the judge concludes that a s.37/41 is appropriate, *Vowles* plays a significant role in providing the rationale as to why there will be no penal element.

No quantitative research has yet considered whether *Vowles* criteria can be applied consistently. Yet, it is clear the task of weighing up the four factors outlined in *Vowles* involves the judge making complex judgements regarding clinical, moral, psychological and legal factors. Such a complex process opens up the risk of personal cognitive biases and heuristics that may unhelpfully contribute to the decision-making process (Kahneman & Tversky, 1974). There is relatively little literature considering the relevance of such biases in the legal arena, though Peay (2016) cited concerns about *Vowles* around potential diagnostic stigma, misconceptions about efficacy of release regime (probation vs. mental health services) and an inconsistent culpability threshold, all of which may produce unreliable sentencing decisions. Notably, prior

to *Vowles*, the s.45a hybrid order was infrequently used, but since, the Ministry of Justice (2018b) reported a 39% increase in s.45a and a 10% decrease in s.37/41 rulings.

More recently, to ascertain greater insight into themes influencing this sentencing process, Beech et al. (2019) interviewed forensic psychiatrists to identify themes they considered important in cases where a s.45a hybrid order is being considered. The paper recommended that these themes now be explored with other '*interested parties*' including criminal lawyers, barristers and judges. It was clear from the research that clinician beliefs about mental health problems (including their origin and perception of treatment efficacy) were important in their decisions, with some conflicting and polarised views shared. For instance, amongst the themes, there were differences in perception of psychiatric treatment and culpability for MDOs with 'enduring psychosis' compared to personality disorder. Perceptions arounds the appropriateness of being managed in the community by probation (post-prison) as opposed to mental health services (post-hospital) also seemed to produce different responses between the two diagnoses. Given the fact that decision-making is ultimately made by a judge (who are not circumscribed to any psychiatric recommendation relating to sentencing), there is a rationale derived from Beech et al. (2019) to explore how consistently *Vowles* is applied and sentences determined by judges or a proxy legal sample. There is also an apparent need to explore whether there is a relationship between diagnosis and/or beliefs about the origins of mental health with final sentencing outcomes.

When exploring the sentencing process for MDOs, there is other previous research that has looked at 'extra-legal' factors pertinent to decision making in the clinical-legal context. For instance, Smith et al. (2014) showed psychiatric diagnostic language to influence jury decision making, as MDOs were more likely to be deemed culpable if described as having a 'psychopathic personality'. Despite psychotic symptoms commonly featuring in personality disorder presentations (Schultz & Hong, 2017), such as a distorted perception of reality in the form of paranoia, hallucinations and confusion, emphasis on disordered personality has been shown to reduce jurors' therapeutic judgements. Similarly, (Baker et al., 2021) found defendants with 'severe personality disorder, borderline pattern' were more likely to be perceived as dangerous and in need of segregation and coercive treatment compared to defendants with a 'complex

mental health problem'. Considering this in the context of *Vowles* and the aforementioned themes derived from Beech et al. (2019), it is possible to hypothesise that if the same effect is seen in a legal sample, an MDO may receive a different sentence (s.45a or prison, as opposed to s.37/41) for the same offence, and with the same presenting symptoms, simply by manipulating their diagnostic label.

Boyle (2007, p.290) argued psychiatric diagnoses differ from physical health diagnoses in that body parts "don't have language or emotions, form beliefs, make relationships, create symbols, search for meaning, or plan for the future". Hence, there is an inferred danger in treating psychiatric diagnostic labels as reliable, valid, clear prognostic markers for treatment effectiveness and outcome. Likewise, field trials of diagnostic criteria have also highlighted particular unreliability in the assessment of personality disorders (Freedman et al., 2013), which is likely to be explained in part by this overlap in symptomology with other diagnoses such as schizophrenia. Foyston, Taylor and Freestone (2019) also found that forensic professionals were less likely to believe an MDO with personality disorder needed hospital treatment unless they had a co-morbidity. Therefore, someone with a sole diagnostic label of personality disorder may receive less therapeutic support within the criminal justice system, despite their symptoms also occurring in psychiatric disorders which are more likely to be perceived to require hospital treatment.

Outside the context of forensic clinical practice, stigma around personality disorder is broadly documented. Sheehan, Nieweglowski and Corrigan (2016) performed a systematic review on the stigma of personality disorders and suggested individuals with this diagnostic label are more likely to be perceived as misbehaving, rather than unwell. This links to beliefs about the origins of mental health difficulties and subsequent perceptions about the interaction between symptomology and offending behaviour. For instance, one could reasonably suggest that an individual's - e.g. a judge's - orientation towards either endogenous (biogenetic) or interactional (environmental) origins of mental health, may influence each of the questions laid out in *Vowles* and final sentencing outcome differently depending on an MDO's diagnosis.

Whilst case-law spelt out in *Edwards* emphasises that "each case turns on its on facts" it is also argued that the process, as currently followed, clearly leaves significant room for 'extra-legal' factors to influence the sentencing process. These factors may include beliefs about the reliability of a diagnosis which

is likely overestimated due to symptom overlap (Aboraya et al., 2006) and potential stigma towards certain diagnoses such as personality disorder (Sheehan, Nieweglowski & Corrigan, 2016); as well as clinician beliefs about the treatability of the disorder or the pragmatics associated with a particular outcome (Beech et al., 2019). The perceived aetiology of mental health problems seems likely to inform what sentence is considered most appropriate for an MDO and if such an interaction is found, regardless of effect direction, this would highlight the need for additional safeguards from personal bias pertaining to the origin of mental health difficulties, from influencing final sentencing outcomes. Currently, the standard protocol is that a pre-sentence report is requested at the discretion of the judge and completed by a probation officer without the focus or remit to comment on mental health or treatment recommendations. Mental health factors may be considered through a psychiatric assessment, but again this is at the discretion of the judge and the content is not standardised - thus the way in which psychiatric evidence is presented will vary significantly - leaving room for improvement in the structure and guidance surrounding the provision of these reports. Currently, judges, who hold the final decision-making power, could be influenced by numerous sources of bias and inconsistent information when applying *Vowles*.

In summary, this paper will be the first of its kind to explore the nature of relationships between the perceived origins of mental health, psychiatric diagnoses, *Vowles* sentencing criteria and final sentencing outcomes for MDOs, using a legal sample. Understanding the nature of these relationships will help to provide the foundations for future research to promote a more robust sentencing process for MDOs.

Research Questions and Hypotheses

Vowles

How consistently is *Vowles* applied?

There are two components here. Firstly, how much judges agree on each of the ‘extent to which’ elements of the *Vowles* criteria. Findings from Beech et al. (2019) indicating polarised views lead us to expect significant individual differences that will produce significant variance across all four criteria in terms of perceived need for treatment, punishment, attribution of offending to mental health and protection of the public.

Secondly, it is hypothesised there will be an interaction between diagnosis and the strength of ratings for each of the 'extent to which' *Vowles* criteria. Based on previous studies (Baker et al., 2021; Schultz & Hong, 2017) it is expected that compared to schizophrenia, a diagnosis of personality disorder will be associated with a reduced endorsement for a need for treatment and attribution of offending to mental health and an increased endorsement for punishment and protection of the public.

Are individual *Vowles* criteria associated with sentencing outcome?

It is predicted that all four *Vowles* criteria will be associated with sentencing outcome, as they combine to produce an appraisal of culpability. If any of the individual elements of Vowles are not associated with sentencing outcome, this would suggest that such elements are not being used or applied in practice.

Are differences in beliefs about the origin of mental health associated with different application of *Vowles*?

It is hypothesised that differences in orientation of beliefs about the origins of mental health difficulties will be associated with differences in ratings against all four *Vowles* criteria. Specifically, we would expect more biogenetic explanations to be associated with a greater likelihood of endorsing a need for treatment (whilst 'medical treatment' has a broad meaning within s.145 (1) of the MHA, one of the key aspects of detention in hospital is to allow the provision of medication against the person's will (Part IV MHA). Thus, in this context, the term 'treatment' is likely to be primarily associated with medication, and hence be more logically required where the problem being treated is viewed as biologically caused).

In regard to the extent to which offending is attributed to the mental health disorder, we would not expect to see a difference associated with beliefs about the origins of mental health. It is expected that this judgement will be primarily be driven by the facts of the offence and there is no a priori reason to hypothesise that a biogenetic explanation for mental illness would be associated with invoking the mental illness to explain the actions in the offence. For the third Vowles criteria, relating to the need for punishment, the research suggests that biogenetic attitudes towards mental illness are associated with reduced blame (Kvaale et al., 2013a; Kvaale et al., 2013b; Larkings et al., 2017). Finally, we would also

expect an increase in the perceived need to protect the public, as explanations of mental illness that rest on biogenetic explanations have been associated with greater stigma around factors informing this judgement, particularly the need for social distance and perceived dangerousness (Kvaale et al., 2013a; Kvaale et al., 2013b; Larkings & Brown, 2017; Loughman & Haslam, 2018).

Final Sentencing Outcome

Does diagnosis predict sentencing outcome?

It is hypothesised that there will be an interaction between diagnosis and final sentencing outcome. Based on previous studies (Baker et al., 2021; Schultz & Hong, 2017) it is expected that compared to schizophrenia, a diagnosis of personality disorder will be associated with more punitive sentencing outcomes.

Are differences in beliefs about the origin of mental health associated with different sentencing outcomes?

The way in which beliefs about the origin of mental health problems influence different sentencing outcomes can be considered in different ways. From a global perspective, it could be hypothesised (Kvaale et al., 2013a; Kvaale et al., 2013b; Larkings & Brown, 2017; Loughman & Haslam, 2018) that by reducing blame, biogenetic explanations would be associated, in general, with less punitive (custodial) sentencing options. Alternatively, one could argue that such beliefs may interact with specific diagnoses given.

For instance, it could be predicted that more biogenetic attributions of mental health will be associated with more s.37/41 sentencing outcomes for schizophrenia and ‘complex mental health’, whilst the same biologically orientated attributions of mental health will be associated with s.45a or prison sentences for defendants diagnosed with personality disorder. Given research suggesting that schizophrenia tends to be associated with more biological causation than personality disorders (Ahn et al., 2009), it may be that the biological causation associated with a disorder is more important in influencing judgements than the individual’s overall attitudes towards mental health problems. So, we would expect disorders associated with more biological causation attitudes (such as schizophrenia) to be less blamed and therefore less likely to go to prison.

Method

Design

The online study looked to answer the research questions using a between-groups design to randomly assign participants to one of three clinical vignette conditions. The independent variable manipulated in the vignette was diagnosis, with the three conditions being: schizophrenia, personality disorder and 'complex mental health'. The vignette design was selected as it has been shown to offer the high internal validity of an experiment and the high external validity of a survey when exploring decision making processes (Evans et al., 2015).

Grievous bodily harm (GBH) with intent under s.18 of the Offences Against the Person Act (1861) was the crime included in the vignette, as sentencing guidelines in England and Wales mandate a prison sentence for this offence. The study measured biogenetic and environmental beliefs about mental health using the Mental Health Locus of Origin Scale (Bale and Hill, 1980), as an independent variable. The survey lasted approximately twenty minutes and the administration of measures was counterbalanced.

Participants

Two hundred and eighty-six participants were recruited, of which one hundred and ninety-eight participants were included in the final sample based on successful completion of two knowledge check questions. This satisfied the minimum required sample estimated to be one hundred and twenty two (eighty two prior to Bonferroni correction) to achieve 0.8 power and detect a medium effect size of 0.3 with a p-value less than 0.05 for the planned analyses. Participants were recruited from Prolific (www.prolific.com), a participant pool which enabled filtering for a sample of legal professionals in England and Wales. Based on survey responses the 'legal professional' umbrella term included barristers, solicitors, legal executives and law students, as well as professionals with non-legal expertise such as administrators, working in the legal sector.

Materials and Measures

Demographic details were collected including age, gender, ethnicity and nature of legal experience. The variables of interest were measured using a quantified measure of *Vowles* criteria (six-point Likert

scales) for agreement with each of the four criteria (see Appendix D) and a categorical selection of one of three sentencing options (see Appendix E). Participants' beliefs about the origin of mental health difficulties was measured using The Mental Health Locus of Origin (MHLO) Scale (Bale and Hill, 1980). The MHLO scale consists twenty items on a six-point Likert scale, measuring a single dimension with two polarised types of belief: "endogenous" (biogenetic) and "interactional" (environmental).

Bale and Hill (1980) measured the construct validity and the distribution of responses of the MHLO scale using sixteen expert raters, reporting an alpha coefficient of 0.76 for the two constructs (interactional and endogenous beliefs) indicating high internal consistency. Interactional items are reverse scored, meaning the scale has a total score ranging from 20 (extreme interactional beliefs) to 120 (extreme endogenous beliefs); Bale and Hill (1980) obtained a mean score of 61.60 from their sixteen expert raters. They concluded that the relatively high standard deviation (8.06), indicated that the two constructs do exist on a bipolar scale and thus, scores are indicative of a rater's proclivity to either an endogenous or interactional understanding of mental health aetiology. Thus, this scale enabled the current study to explore relationships between MHLO beliefs and aspects of the sentencing process for MDOs.

This study was an online survey via Qualtrics, an online survey tool. A copy of the lay summary can be found in Appendix F, participant information sheet in Appendix G, consent form in Appendix H and debrief in Appendix I. The transcript of the video vignette can be found in Appendix J.

Procedure

The Qualtrics survey was advertised through the online Prolific participant pool, offering £2.67 per participant (rated as 'good' within the guidance on Prolific, equating to £8 per hour pro-rata). When participants opened the link, they were presented with the participant information sheet and required to confirm they wished to participate, ensuring informed consent was gained.

Participants watched a mock court video vignette (transcript included in Appendix J), presenting mitigating and aggravating case facts for a defendant who had been found guilty of GBH with intent. The diagnostic term used in the vignette was randomised between three diagnoses: schizophrenia, personality disorder, or complex mental health problem. All symptoms included in the vignette could fall under any of

these diagnoses, all other information presented in the video vignettes remained constant. There was a knowledge check following the video which required the name of the defendant and the offence to be correctly chosen out of three options. All participants' responses who failed this knowledge check were not included in the final results. To counterbalance the study, half the participants were administered the MHLO scale (Hill & Bale, 1980) before the video vignette and the other half received them after viewing the vignette.

Participants were then asked to rate each *Vowles* criteria (each on a six-point Likert scale), to indicate the extent to which they agreed with each of the four statements based on the video they watched. Participants were also asked to provide a final sentencing outcome: either a s.37/41 hospital order, s.45a hybrid order, or prison. Finally, a digital debrief (see Appendix I) was provided with researcher contact details and participants were required to submit their survey after this was presented.

Ethical Considerations

Ethical approval was gained through the University of East Anglia's Faculty of Medicine and Health Sciences ethics procedure (see Appendix K) and the research procedure was checked against the code of ethics published by the British Psychological Society (2014). In regard to confidentiality, all data was stored anonymously on Qualtrics which is compliant with General Data Protection Regulation (GDPR; Data Protection Act 2018). Participants were informed that partial survey data would automatically be saved if they withdraw whilst completing the study and they would need to request this to be deleted with their Prolific ID. All data extracted from Qualtrics, which contained no personally identifiable information, was stored on an encrypted server. All participants opted in through the convenience sampling method and provided informed consent, confirming they had read the participant information sheet which also included signposting to appropriate organisations if they experienced any distress.

Main Analyses

The variables for the analyses outlined below include the categorical diagnostic groups (schizophrenia, personality disorder and 'complex mental health') and the ordinal scale data from the MHLO Scale (Hill & Bale, 1980). Additional variables analysed include the binary categorical sentencing

outcome (s.37/41 or s.45a/prison). The s.45a and prison sentences were combined for analysis, as both sentences carry a custodial sentence and only five participants opted for prison alone. Ordinal scale data was used to measure level of agreement with each of the *Vowles* criteria.

The *Vowles* ratings were found to be negatively skewed, as participants showed a tendency to opt for agreement and strong agreement; five and six respectively on the *Vowles* six-point Likert scale. Normal Q-Q Plots were examined which confirmed this violation of the normality assumption in residual data. Therefore, non-parametric (distribution free) tests were used to analyse relationships involving the *Vowles* ordinal ratings and the median average of *Vowles* ratings is reported to denote central tendency. Whilst normality is violated, standard deviation is still reported in the findings as a measure of spread and, by inference, agreement between raters.

Additional analysis was completed in addition to the above analysis answering the primary research questions, given a post-hoc observation that the MHLO scale (Hill & Bale, 1980) was behaving as a state (rather than trait) variable, as scores on this measure showed an order effect (suggesting that exposure to the study materials impacted on respondents' approach to the MHLO).

1. How consistently is *Vowles* applied?

The median and standard deviation for each *Vowles* criteria is presented in the findings for each diagnostic group and the total sample. Levene's F test is reported to examine the homogeneity of variance in *Vowles* ratings, to see if there were significant differences found between diagnostic groups in the spread of agreement distributed around the median. The non-parametric Kruskal-Wallis test is also reported for the relationship between diagnosis and median *Vowles* rating.

2. Are individual *Vowles* criteria associated with sentencing outcome?

Chi square tests are reported to examine the homogeneity of each *Vowles* rating between sentencing outcomes, to see if strength of agreement/disagreement with any criteria was associated with sentencing outcome.

3. Are differences in beliefs about the origin of mental health associated with different application of *Vowles*?

The correlation coefficients between scores on the MHLO scale (Hill & Bale, 1980) and *Vowles* criteria are reported per diagnostic group.

4. Does diagnosis predict sentencing outcome?

The percentage distribution, mean average and standard deviation of final sentencing outcomes is reported per diagnosis. Levene's F test is used to examine homogeneity of variance between diagnostic groups in sentencing outcome. A logistic regression was used to examine if diagnosis predicted sentencing outcome.

5. Are differences in beliefs about the origin of mental health associated with different sentencing outcomes?

An independent samples t-test is reported, analysing whether scores on the MHLO scale (Hill & Bale, 1980) were associated with differences in sentencing outcome. An independent samples t-test is also reported per diagnostic group, to examine whether diagnosis played a role in whether belief ratings on the MHLO scale were associated with different final sentencing outcomes.

Results

Sample Characteristics

Table 1. Participant Demographics (n = 198).

	M (SD)
Age	33.59 (10.14)
Ethnicity	**N (Descending)**
White (English/Welsh/Scottish/ Irish/British/Other)	168
Asian/Asian British (Pakistani, Bangladeshi, Chinese, Indian, Other Asian	15
Mixed/Multiple Ethnic Groups (White and Asian, White and Black Caribbean, other mix/multiple ethnic background)	7
Black/African/Caribbean/Black British	4

Other ethnic group (Arab, any other ethnic group)	3
Not stated	1
Gender	**N**
Female	152
Male	46
Profession	**N (Descending)**
Other legal (including legal executives)	72
Other non-legal[2]	54
Solicitor	50
Law Student	17
Barrister	5
Legal Profession Total	144
Non-Legal Profession Total	54
Currently working in England/Wales	**N**
Yes	169
No	29
Legal Experience	**M (SD)**
Year of Legal Qualification (if applicable, n = 89)	2012.60 (9.27)
Area of Law (participants could select multiple)	**N (Descending)**
Other (n<10 per area) (public, intellectual property, equity and trusts, insurance, ADR, banking, environmental, human rights, tax, EU, construction, constitutional, 'other')	74
Property	35
Litigation	21
Commercial	20
Corporate	17
Family	15
Private Client	15
Criminal	14
Contract	13
Employment	13
Land	13
Tort	11
Experience of Mental Health Difficulties 1 (None) – 6 (Great Deal)	**M (SD)**
Self	2.73 (1.07)
Other	3.38 (1.07)

[2] Non-legal professionals were participants registered on Prolific as working in the legal sector in England and Wales, without any legal qualification. This included administrators and clerks.

Post-hoc Analysis

Checking the assumption that the MHLO score is a trait variable

Table 2. Mean average scores on the MHLO scale (Hill & Bale, 1980) between diagnostic groups (n=198).

Diagnostic Group	Mean*	N	Std. Deviation
Complex Mental Health	62.45	60	7.41
EUPD	65.37	68	8.90
Schizophrenia	68.41	70	9.15
Total	65.56	198	8.86

*High = Endogenous (Biogenetic) / Low = Interactional (Environmental)

Prior to the main analyses, post-hoc analysis was completed to test the assumption that MHLO scores are a trait variable, based on the observed difference in means between diagnostic groups. The results from the one-way ANOVA examining whether diagnostic group is associated with difference in total scores on the MHLO scale (Hill & Bale, 1980) showed that diagnosis is associated with different MHLO scores ([F2, 195) = 7.847, p <.01) indicating that the MHLO scale measures a state variable - rather than a trait variable - as beliefs about 'mental health' do not remain stable across different diagnoses. Unfortunately, the data collected did not enable analysis of mean MHLO scores pre and post video vignette, to give further insight into whether awareness of the MDO's diagnosis influenced the total MHLO scores or if this was observed difference occurred by chance. However, as half of each diagnostic group completed the MHLO scale after watching the video and thus becoming aware of the MDO's diagnosis, it can be inferred that this is the only variable change that may have influenced the difference observed in MHLO scores.

The results also show that schizophrenia was associated with the most endogenous (biogenetic) average score, on the MHLO scale which ranges from 20 (extreme interactional) to 120 (extreme endogenous) and had the least agreement between raters (M = 68.41, SD = 9.15), whilst complex mental health was associated with the most interactional (environmental) average score and had the greatest agreement between raters (M = 62.45, SD = 7.41), whilst EUPD fell in between for both mean score and agreement (M = 65.37, SD = 8.90). It should also be noted though, that none of the mean scores deviated far

from the centre towards an extreme end of the bipolar scale, hence, the differences, whilst significant, were marginal.

Main Analysis

How consistently is *Vowles* applied?

Table 3. Median and Standard Deviation of Vowles Ratings on a Six-Point Likert Scale, total and per Diagnostic Group (n=198).

	Median (SD) 1= Strong Disagree … 6 = Strongly Agree			
Vowles Criteria	Schizophrenia (n = 70)	EUPD (n = 68)	Complex Mental Health (n = 60)	Total (N = 198)
(1) Extent to which Mental Health Requires Treatment	6.00 (1.28)	6.00 (0.17)	6.00 (0.67)	6.00 (0.87)
(2) Extent to which Offence is Attributable to Mental Health	5.00 (1.03)	5.00 (1.00)	5.00 (0.96)	5.00 (0.99)
(3) Extent to which Offence Requires Punishment	6.00 (1.05)	6.00 (0.86)	6.00 (0.97)	6.00 (0.96)
(4) Extent to which Protection of the Public is Important	6.00 (1.14)	6.00 (0.46)	6.00 (0.25)	6.00 (0.75)

The total median averages show that regardless of diagnosis, there was strong agreement overall that the defendant's mental health required treatment (M = 6.00, SD = 0.87), the offence required punishment (M = 6.00, SD = 0.96) and protection of the public was important (M = 6.00, SD = 0.75). There was also moderately substantial agreement with the offence being attributable to the defendant's mental health regardless of diagnosis (M = 5.00, SD = 0.99). See Appendix L for a percentage breakdown of the spread of agreement on the six-point Likert scale for each of the *Vowles* criteria.

The homogeneity of variance was examined using Levene's F test, which established statistically significant differences in the variance of ratings (reduced agreement) between diagnoses for the first Vowles criteria, the extent to which mental health requires treatment, $F(2,195) = 4.833$, $p<.01$. Agreement was lowest for schizophrenia and highest for EUPD. A significant variation in agreement was also found

between ratings on the fourth *Vowles*, the extent to which protection of the public is important, $F(2,195) = 4.160$, $p<.05$. This was agreed upon least for schizophrenia and most for complex mental health.

Therefore, a Kruskal-Wallis test was used to examine whether diagnosis was also associated with significant differences in the strength of ratings between *Vowles* criteria. The results show only one statistically significant relationship between the defendant's diagnosis and the first *Vowles* criteria, the extent to which mental health treatment was required $H(2) = 8.967$, $p = .011$. The Kruskal-Wallis mean rank data indicated that participants were more likely to view a defendant with emotionally unstable personality disorder (mean rank = 104.71) and a complex mental health problem (mean rank = 102.59), as more likely to require treatment, compared with schizophrenia (mean rank = 91.79). There were no differences in the remaining three *Vowles* ratings seen between diagnoses. See Appendices M-P for a percentage breakdown of the spread of agreement on the six-point Likert scale for each of the *Vowles* criteria, per diagnostic group.

Are individual *Vowles* criteria associated with sentencing outcome?

To see if other factors predict sentencing outcome, chi square tests were used to examine the relationships between sentencing outcome and the strength of agreement on each of the four *Vowles* criteria. The results showed significant relationships between sentencing outcome and the strength of agreement/disagreement for the third *Vowles* criteria, extent to which the offence requires punishment (χ^2 (5) = 31.948, $p < 0.01$) and the fourth *Vowles* criteria, extent to which protection of the public is important (χ^2 (5) = 14.323, $p<.05$). Strong agreement with both these criteria were associated with a greater likelihood of a custodial sentence being given. Contrary to hypotheses, no significant relationship between sentencing outcome and the strength of agreement/disagreement was found for the first *Vowles* criteria, extent to which mental health requires treatment, (χ^2 (5) = 5.437, $p = 0.245$) or the second *Vowles* criteria, extent to which the offence is attributable to mental health (χ^2 (5) = 3.076, $p = 0.69$).

Are differences in beliefs about the origin of mental health associated with different application of *Vowles*?

Table 4. Analysis of correlation coefficients between total scores on the MHLO scale (Hill & Bale, 1980) and Vowles criteria for MDOs with Schizophrenia, EUPD and Complex Mental Health (n = 198).

	Pearson Correlation	*Vowles* 1 Extent to which Mental Health Requires Treatment	*Vowles* 2 Extent to which Offence is Attributable to Mental Health	*Vowles* 3 Extent to which Offence Requires Punishment	*Vowles* 4 Extent to which Protection of the Public is Important
MHLO Scores: High = Endogenous (Biogenetic) / Low = Interactional (Environmental)	Schizophrenia (n = 70)	.062	-.029	-.003	-.100
	EUPD (n = 68)	.259	.145	-.038	-.031
	Complex Mental Health (n = 60)	.062	-.094	.183	.016

To reduce the chance of type I error and incorrectly rejecting a true null hypothesis, given the number of correlations being compared, a critical *p* value of .001 was adopted. The results showed that for MDOs diagnosed with schizophrenia, EUPD and complex mental health, none of the correlations between MHLO beliefs and level of agreement with any of the *Vowles* criteria were statistically significant relationships.

Does diagnosis predict sentencing outcome?

Table 5. Final Sentencing Outcomes between Diagnostic Groups (n=198).

Diagnostic Group	37/41	45A or Prison	Mean Average (SD) 37/41 = 1 … 45A or Prison = 2
Complex Mental Health (n=60)	23.33%	76.67%	1.77 (0.43)
EUPD (n=68)	23.53%	76.47%	1.76 (0.43)
Schizophrenia (n=70)	21.43%	78.57%	1.79 (0.41)
Total (N=198)	22.73%	77.27%	1.77 (0.42)

A logistic regression showed that diagnosis did not predict sentencing outcome [$F(1, 196) = 0.71$, $p = 0.791$]. Due to the statistical non-significance, the regression coefficients were not interpreted. A test of homogeneity using Levene's F Test also showed no statistical significance in the variance of the sentencing

outcomes between diagnoses. As a whole group, 77.27% of participants opted for a punitive sentence (s.45a or prison).

Are differences in beliefs about the origin of mental health associated with different sentencing outcomes?

The results of an Independent Samples t-Test examining the association between beliefs measured on the MHLO scale (Hill & Bale, 1980) and final sentencing outcome showed no significant relationship between MHLO beliefs and the final sentencing outcome across the whole sample (N=198), regardless of diagnosis ($t(196) = -.673$, $p = 0.50$).

Table 6. Mean scores on the MHLO scale (Hill & Bale, 1980) per sentencing outcome for each diagnostic group (n = 198).

	Schizophrenia (n = 70)		EUPD (n = 68)		Complex Mental Health (n = 60)	
Sentence	N	Mean (SD)*	N	Mean (SD)*	N	Mean (SD)*
37/41	15	64.13 (10.68)	16	69.44 (9.61)	14	60.14 (8.37)
45A or Prison	55	69.58 (8.43)	52	64.12 (8.37)	46	63.15 (7.05)

*High = Endogenous (Biogenetic) / Low = Interactional (Environmental)

For each diagnostic group, an Independent Samples t-Test was used to examine the relationship between the mean scores on the MHLO scale (Hill & Bale, 1980) and final sentencing outcome. For MDOs with schizophrenia, the results showed a significant difference in MHLO scores between s.37/41 (M = 64.13, SD = 10.68) and s.45a or prison (M = 69.58, SD = 8.43); $t(68)=-2.093$, $p = 0.04$). This indicates that high endogenous (biogenetic) orientation of beliefs about the origins of mental health are more likely to result in a s.45a or prison sentence for MDOs with schizophrenia. For MDOs with EUPD, the results showed a significant difference in MHLO scores between s.37/41 (M = 69.44, SD = 9.61) and s.45a or prison (M = 64.12, SD = 8.37); $t(66)=2.148$, $p = 0.035$). This indicates the reverse of the effect found for MDOs with schizophrenia, as high endogenous (biogenetic) orientation of beliefs about the origins of mental health are more likely to result in a s.37/41 sentence for MDOs with EUPD.

The results showed that for MDOs described as having 'complex mental health problem', there was no significant difference in MHLO scores between s.37/41 (M = 60.14, SD = 8.37) and s.45a or prison (M = 63.15, SD = 7.05); t(58)=-1.339, p = 0.19). This indicates that endogenous (biogenetic) or interactional (environmental) orientation of beliefs about the origins of mental health did not significantly affect the likelihood of a s.37/41 sentence instead of a s.45a or prison, for MDOs described as having a complex mental health problem.

Discussion

How consistently is *Vowles* applied?

It was predicted that individual differences would produce significant variance in the ratings on all of the 'extent to which' *Vowles* criteria. In terms of the interaction with diagnosis, the results showed differences in variance between groups for the first and fourth Vowles criteria. For the first (the extent to which mental health requires treatment), agreement was lowest for schizophrenia and highest for EUPD, and for the fourth (the extent to which protection of the public is important), agreement was lowest for schizophrenia and highest for complex mental health. However, the median ratings stayed constant across the diagnostic groups for all *Vowles* criteria despite these differences, with relatively low standard deviations (of around one point or less on the six-point Likert scale, whereby 1-3 was to disagree and 4-6 was to agree). In context, therefore, the differences in the variance of ratings was at the agreement end of the negatively skewed data. However, it is still fathomable that small differences in judgement may lead to significant differences in subsequent decision-making, when appraising multiple factors simultaneously.

Whilst there was no significant difference in variance between diagnoses in regard to the extent to which the offence was attributable to the defendant's mental health (second *Vowles* criteria), this criterion did appear to invite the largest spread of ratings, with relatively more participants actively disagreeing with ratings of 1-3. This reduction in agreement may be reflective of the difficulty – and in some cases impossibility – in retrospectively determining the relationship between someone's mental health symptoms and their behaviour at the time of the offence. Given the differences between diagnostic groups in the strength and consistency of agreement for attributions of mental health to offending, it may be prudent for

there to be a standardised assessment framework for expert witnesses to use when presenting any evidence regarding a question of an interaction between an offender's mental health diagnosis and offending behaviour. Currently, pre-sentencing reports are not mandated when sentencing an MDO, instead left to the discretion of the judge, resulting in varying levels of material information available to inform the sentencing process. Furthermore, the content of the report, and the process of the underlying assessment, is left largely down to the discretion of the relevant clinician. However, these results show the potential for small changes in information (e.g. diagnosis) to make a material difference to the application of sentencing criteria.

It was also hypothesised in relation to the consistent application of *Vowles*, that when diagnosis was accounted for, there would be an interaction between the MDO's diagnosis and agreement levels with each of the 'extent to which' *Vowles* criteria. However, significant differences between the diagnoses in subsequent *Vowles* criteria ratings were only found in relation to the extent to which the MDO's mental health requires treatment (first *Vowles*). This interaction may be linked to contrasting beliefs about the origin of mental health (Beech et al. 2019) and thus, the perception of what treatment would entail and how effective it may, or may not be. It appears that participants were least likely to agree that a defendant with schizophrenia required treatment, compared to the same symptoms being described as a complex mental health problem, or EUPD, which was rated as the most in need of treatment. This goes against the original hypothesis that EUPD would be perceived to require treatment less than schizophrenia. Therefore, the evidence points towards the need for the sentencing process to be safeguarded from personal bias when making this judgement, when you consider that psychotic symptoms have been shown to feature in personality disorder (Schultz & Hong, 2017) and this study specifically used symptoms which present in both diagnoses, thus indicating that the label attached to the symptoms can affect perceptions about aetiology and treatment. Whilst Beech et al. (2019) found that clinicians perceived personality disorder to be less treatable, these findings suggest that clinical and legal professions may attach different expectations regarding diagnoses.

It should be reiterated, however, that these differences were observed within the context of moderate agreement that all three diagnostic groups required mental health treatment. In an alternative vignette case

where agreement levels may not be so high – if more conflicting information was presented – you could reasonably expect this difference to result in a higher frequency of disagreement which could translate to greater variance in sentencing outcomes.

Are individual *Vowles* criteria associated with sentencing outcome?

It was hypothesised that the strength of agreement on all four *Vowles* criteria would each be associated with sentencing outcome, however the results showed that only ratings on the third and fourth *Vowles* criteria (need for punishment, and protection of the public respectively) were associated with sentencing outcome. So, one may argue that on the whole, *Vowles* criteria are not given equal weight when determining culpability (Beech et al. 2019) despite this criteria not intended to be hierarchal, and so personal biases regarding whether an offence requires punishment and how the public is best protected may need to be controlled for within the decision making process. For instance, Beech et al. (2019) and Peay (2016) highlighted that when it comes to protecting the public, there is an inconsistent perception amongst forensic psychiatrists around who is best placed to make decisions about community release (mental health tribunal for a s.37/41 vs. parole board for a s.45a or prison) and which regime is most appropriate to oversee this release (forensic mental health team for s.37/41 vs. probation for s.45a or prison). Therefore, judges may also benefit from clear information regarding both pathways through the criminal justice system, given the apparent weighting given to public protection in determining the final sentence. This may be particularly important in cases where the perceived risk to the public is high, yet largely associated with mental health symptomology, so that unnecessarily punitive sentences are not made based on perceptions about risk management. It may also be possible that the *Vowles* criteria as a whole require a review, as factors such as the perceived risk of future offending in relation to mental health are not explicitly covered, but may inform the sentencing decision.

Are differences in beliefs about the origin of mental health associated with different application of *Vowles*?

Differences in orientation of beliefs about the origins of mental health difficulties (measured using the MHLO scale (Hill & Bale, 1980)) were hypothesised to be associated with different *Vowles* criteria agreement ratings. Whilst no significant relationships were found, hypothetically if an individual holds more

biogenetic beliefs about a particular diagnosis, they may be less likely to see the utility in psychological treatment when applying *Vowles*, whilst someone who holds highly interactional beliefs, may conversely not see the utility in psychiatric medication. Therefore, an individual's understanding about what treatment entails may mediate this interaction between beliefs about the origins of mental health and subsequent real life application of *Vowles*.

Does diagnosis predict sentencing outcome?

It was hypothesised that diagnosis would predict sentencing outcome and based on previous literature (Baker et al., 2021; Schultz & Hong, 2017) it was predicted that schizophrenia would be more likely to receive s.37/41 hospital orders compared to EUPD, as participants were expected to take a less therapeutic view of an MDO diagnosed with EUPD (Foyston et al., 2019; Sheehan et al., 2016; Smith et al., 2014). However, the results rejected this hypothesis, as diagnosis was shown not to predict final sentencing outcome. Moreover, lack of agreement in these decisions, a concern previously highlighted by Peay (2016), was consistently high across all the diagnostic groups: overall 22.73% chose s.37/41 compared to 77.27% who chose s.45a or prison. Ideally, the sentencing process would have far higher levels of agreement on the final sentence. These results indicate that other factors - such as beliefs about the origins of mental health difficulties, as well as other facts pertaining to the case and/or MDO - may be influencing sentencing outcomes, meaning that individual bias may produce different sentences based on the same case facts.

Are differences in beliefs about the origin of mental health associated with different sentencing outcomes?

Further analysis explored whether personal beliefs about the origin of mental health diagnoses may be a mediating factor in the final sentencing outcome and thus contributing to the stark lack of agreement shown in the final sentencing outcomes that would put MDOs on totally different pathways through the criminal justice system. These differences in sentencing outcomes would result in disparate yearly costs, with an MDO sent to prison costing the state approximately £40,000 per year (Ministry of Justice, 2019), compared to £190,000 for a secure hospital bed (Department of Health, 2015).

It was hypothesised that the association between orientation of beliefs about the origins of mental health difficulties on the MHLO scale (Hill & Bale, 1980) and final sentencing outcome would differ

depending on the MDO's diagnosis; biogenetic beliefs were predicted to be associated with less punitive (custodial) sentencing outcomes for schizophrenia and 'complex mental health', compared to personality disorder. However, the effect found was the opposite to what was anticipated based on previous literature (Baker et al., 2021; Foyston et al., 2019; Schultz & Hong, 2017; Sheehan et al., 2016; Smith et al., 2014). Rather than beliefs towards the biogenetic extreme being associated with more s.37/41 sentencing outcomes for MDO's labelled with schizophrenia, this MHLO orientation was associated with more s.45a and prison sentences for this diagnostic group. The exact opposite was found within the EUPD diagnostic group, with increased biogenetic orientation predicting more s.37/41 hospital orders and orientation of MHLO beliefs were not associated with different sentencing outcomes for MDOs labelled with 'complex mental health',

These results indicate that MHLO beliefs don't automatically dictate the perceived efficacy of hospital treatment, or conversely, culpability and need for punishment, but rather, this varies between diagnoses. It may suggest that biogenetic explanations are perhaps more important in terms of activating beliefs around negative causal factors or prognosis for schizophrenia, or perhaps activating stereotypes of risk or dangerousness, rather than activating a belief that biogenetic explanations imply the value of biological treatments. Conversely, for EUPD, it may be that the ability to adopt a biogenetic explanation is in some way a representation of the 'validity' of a person's diagnosis or mental health condition, and thus buffers against blame. Certainly, these explanations are rather speculative, but regardless, the findings support concerns raised by Peay (2016) around diagnostic stigma producing an unreliable culpability threshold and subsequently inconsistent sentencing decisions for MDOs. The results indicate that additional safeguards are indeed needed, as MDOs with the same diagnosis may receive different sentences depending on the MHLO orientation of the person making the decision. Such unchecked personal bias and heuristics in decision making increases the risk of unreliable outcomes (Tversky & Kahneman, 1974). Furthermore, the effects seen between MHLO orientation and final sentencing outcome are polar opposites for a label of schizophrenia, compared to EUPD. This is particularly concerning given that all symptoms included in the video vignette are diagnostic features of both diagnoses.

These results suggest that further safeguards need to be added to standard practice when sentencing MDOs, to prevent them receiving different sentences depending on the diagnostic language used and the orientation of a judge's beliefs about the origin of their mental health. Such safeguards could include mental health training to reduce extreme belief orientations about the origins of mental health that do not fit with the scientific understanding of these conditions, as well as the mandatory inclusion of a standardised pre-sentence report, to comprehensively assess the mental health history of the MDO and the current evidence base for treatment efficacy associated with the MDO's specific psychiatric condition. This would undoubtedly have significant time and cost implications, but appears a necessary step to create a more robust process controlling for bias about diagnosis and perceptions about the origin of mental health difficulties.

It is also noteworthy that MHLO beliefs were not associated with sentencing outcome for MDOs described as having a complex mental health problem. This gives grounds to argue that diagnostic labels, which have been shown to be inconsistently determined and overlap in symptoms (Aboraya et al. 2006), blur the lens through which the judge weighs up psychiatric evidence to assess culpability, treatment efficacy and the need for punishment. Whilst diagnostic labels may be necessitated to appraise the evidence base for specific diagnoses, it is vital that legal professionals are provided with the necessary information to understand aetiology and treatability through a robust expert witness protocol and pre-sentencing report.

Considerations about use of the MHLO measure

Interestingly, the mean scores on the MHLO scale (Hill & Bale, 1980) were observed to differ between the three diagnostic groups; complex mental health was rated the most environmental and schizophrenia the most biogenetic. The order in which participants completed the MHLO scale and saw the video vignette was randomly counterbalanced - as the MHLO score was considered a trait variable with beliefs about 'mental health' expected to remain stable across different diagnoses, with interactions then expected between different orientations and diagnoses. However, the differences found between diagnostic groups indicate that the MHLO score may in fact operate to some degree as a state variable, and was itself influenced by awareness of the MDO's diagnosis, as this was the only factor that changed between the three groups. Thus, biogenetic/environmental beliefs may differ between mental health diagnoses and the term

'mental health' may be too broad in itself to measure a stable set of beliefs about aetiology. This suggests that in future research, the MHLO scale should be offered prior to any experimental materials to avoid the potential impact of study materials on underlying judgements.

It should be noted though, that whilst mean MHLO scores differed significantly between diagnoses, the distribution of MHLO scores around these means for all diagnoses, points to there needing to be more done to address the inconsistent perceptions of these diagnostic labels and the subsequent ramifications in terms of sentencing.

Conclusions

In real terms, over one hundred thousand people are sent to prison in England and Wales each year (Ministry of Justice, 2018b) and over a third of them suffer from some form of mental health difficulty (National Audit Office, 2017). The variance reported in final sentencing outcomes between s.37/41 (22.73%) compared to s.45a/prison (77.27%) is itself arguably a cause for concern, given that all participants received broadly the same study materials. Yet this is by far not the only finding of concern. Firstly, it appears that the Vowles criteria do not appear to be uniformly utilised in the sentencing decision-making process; factors of punishment and risk may outweigh factors related to mental health need. Further, agreement between raters in some of the Vowles criteria showed significant differences, suggesting that the meaningfulness of these ratings, made by an individual judge, may be open to question. Finally, there is a potential that beliefs about the causality of mental illness may interact with an apparent diagnosis (even when all other aspects of the case are the same), leading to a difference in decision-making around sentencing. These factors taken together, could result in a significant impact on the experience of an MDO, where characteristics of their offence and/or psychiatric diagnosis interact with specific beliefs or expectations held by a judge about offending and mental health. Given the relatively small number of secure hospital beds available (8,000; NHS Commissioning Board, 2013) compared to prison (80,000; Ministry of Justice, 2018a), the sentencing process needs to be more robust in determining who can access this finite resource and to ensure that the most vulnerable MDOs are not thrust into a prison system where mental health services are "overwhelmed" and "under-resourced" (Durcan & Knowles, 2006).

In general, there also appears to be more weighting given to the need for punishment and public protection (third and fourth *Vowles* criteria respectively), highlighting the need for clarity regarding decisions about release and regime of release, as noted as well by Beech et al. (2019) to address misconceptions about the efficacy of parole vs. tribunal and then management by probation vs. mental health services. Additional safeguards may also be required to achieve more equally weight appraisal of the four *Vowles* criteria.

Ultimately, if this evidence is replicated in a sample of senior judiciary members, then greater awareness and understanding of the aetiology of different disorders is needed, in addition to more information regarding what treatment entails. This may be achieved through mental health awareness training for judges and a pre-sentencing report to be mandatory in the sentencing process of any MDO diagnosed with a severe mental illness. The evidence also points towards the development of a standardised assessment framework for expert psychiatric witnesses, which acknowledges the difficulty in retrospectively attributing mental health symptoms to an MDO's offending. If future research confirms these preliminary findings, this would be unequivocal cause for concern for MDOs being sentenced in England and Wales.

Study Limitations

The participant demographics presents a number of significant limitations in generalisability. The majority of participants were female and from a white background. Only 44.95% (n = 89) were qualified legal professionals and many did not specialise in criminal law; there were only five barristers and no judges. Under the Criminal Justice Act (2003) Section 142, judges are not circumscribed to psychiatric recommendations, so the natural progression to increase the external validity of findings within this body of research would now be to recruit senior members of the judiciary. It is also important to note that participants in this study were volunteers, which as noted by Clark-Carter (2018) may offer a biased representation of the legal profession.

The Ministry of Justice (2020) report into the diversity of the judiciary, showed that 32% of court judges and 47% of tribunal judges were women, whilst 8% of court judges and 12% of tribunal judges were from black, Asian or minority ethnic groups. Therefore, further research may benefit from stratified

recruitment in terms of gender and ethnicity, to get a representative sample from a more senior judiciary population, to provide comparable results. It is yet to be established if senior members of the judiciary, specialising in criminal law and with years of experience of sentencing MDOs, would produce similarly inconsistent results, affected by beliefs about the origin of mental health diagnoses.

Another limitation pertains to the primary measure used, the MHLO scale (Hill & Bale, 1980). Unfortunately, it was not possible to decipher from the data collected which participants completed the MHLO scale pre and post watching the video vignette. This would have enabled within group analysis per diagnostic group to see if awareness of the diagnosis was associated with different mean average MHLO scores, or if this occurred by chance. The comparisons looking at the relationships between each *Vowles* criteria and sentencing outcome were also un-adjusted for multiple comparisons, increasing the potential risk of a Type I error, but given the nature of the study being the first of its kind, it was felt that the subsequent risk of an increased Type II error was undesirable. In this case, had the Holm-Bonferroni correction (Holm, 1979) been applied for these multiple comparisons, the corrected critical value would have been p=.017, and so both significant results would still have met this threshold for statistical significance.

Whilst the vignette offers a replicable design, which has been shown to have high internal and external validity (Evans et al., 2015), the single case used comes with significant limitations when discussing and applying the findings. The crime (GBH with intent) was very specific and serious in nature. Many social demographic factors also make the findings non-generalisable; the study only features an adult male offender and an adult male victim. The offender is also implied to be of working class, whilst the victim is his senior. The offender's race, religion, sexuality and appearance are also not featured in the vignette. Hence, there are many factors relating to social difference (Burnham, 2012) that may also interact with an MDO's offence, diagnosis and the subsequent sentence laid down. Moreover, the *Vowles* data obtained in this study has a strong negative skew, indicating that the vignette invited agreement. A study using a similar design, that features more conflicting material information, may increase external validity and highlight more bias/mis-perceptions that require safeguarding within the sentencing process.

Recommendations

These findings aimed to build on the qualitative findings from Beech et al. (2019) to provide the foundations for further quantitative research to replicate this design with a more senior judiciary sample. The evidence thus far, obtained from a sample with varying degrees of legal experience, suggests that further safeguards in the MDO sentencing process may be needed. Improving the sentencing process would provide a greater safeguard against judges' personal bias when weighing up the information, in addition to clinicians' personal bias whilst presenting the material information; hence, improving how consistently sentencing decisions are made in relation to this *Vowles* criteria. In the absence of sufficient information, the process of formulating and hypothesis testing about an offender's mental state at the time of offending is little more than lay speculation, presented under the guise of an expert opinion.

Future research may also wish to further consider the application of *Vowles,* given the apparent hierarchal preference towards the need for punishment and protection of the public in determining final sentences. An additional item covering the risk of future offending in relation to mental health may be worthy of consideration in any eventual revision of the sentencing process, in which clinicians and lawyers focus on the MDO's mental state at the time of offending and are tasked with weighing up complex and competing information regarding culpability, risk, punishment and mental health need.

Researchers are also advised to heed caution in using the MHLO scale (Hill & Bale, 1980) as a trait variable in future research designs, as total scores appear to be different between diagnoses, indicative of a state variable.

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Chapter 5. Discussion and Critical Evaluation Chapter

This chapter summarises the main findings from the entire thesis portfolio. A critical evaluation is presented of the systematic review and empirical research project, in conjunction with identified strengths and limitations, clinical and theoretical implications, in addition to suggestions for future research.

Main Findings

Systematic Review

There was a sparsity of high quality literature exploring the efficacy of psychological intervention in inpatient settings in England and Wales, for patients detained under the Mental Health Act (MHA) (1983). Only forty-three studies met inclusion criteria, of which only five studies came from outside a forensic setting. The limited evidence base available was dominated with studies examining the efficacy of predominantly group based Cognitive Behavioural Therapy (CBT) and variations of the Reasoning and Rehabilitation (R&R) programme. The limited literature did appear to suggest some associated improvements in overall wellbeing, self-esteem, social functioning, problem solving, substance use, anger, attitudes towards offending, fire-setting, violence, anxiety, depression, personality disorder and psychosis. However, the literature did not show improvements in global daily functioning, impulsiveness/mindfulness, readiness to change, empathy, and there was an absence of evidence relating to sexual offending risk. However, due to the limited amount of evidence, and the overall low quality of studies used, the associated improvements (and lack of in some domains) should be treated with caution. Evidence for interventions delivered individually and outside of a forensic context under the MHA were particularly lacking.

Empirical Project

The final sentencing outcomes were inconsistently determined across the whole sample, 77.27% had a custodial element compared to 22.73% of sentences being hospital orders with no custodial element. Similar levels of inconsistency were seen in all the diagnostic groups. Individual beliefs about the origins of mental health difficulties appeared to influence the application of some of the *Vowles* sentencing criteria and were associated with different sentencing outcomes depending on the diagnosis in the vignette. The results also showed contrasting effects between schizophrenia and emotionally unstable personality disorder

(EUPD) in relation to beliefs about the origins of mental health, which was expected, however the opposite direction of effect was found - with more biogenetic beliefs on the Mental Health Locus of Origin Scale (Bale and Hill, 1980) associated with an increased likelihood of a hospital disposal where the vignette diagnosis was EUPD and a higher chance of a custodial outcome for those diagnosed with schizophrenia.

Strengths

Systematic Review

The systematic review presented is the first to examine the event and quality of the evidence base for psychological interventions for those detained under the MHA in England and Wales. Other systematic reviews (using a meta-analytic approach) had found mild-moderate improvements associated with psychological interventions in inpatient settings using a wider geographical sample (forensic inpatient; McIntosh et al. 2021 and acute inpatient; Paterson et al., 2018), however detention under the MHA provides a unique and specific context which enables the systematic review included in this thesis portfolio to contribute new insight to the field. Particularly, as a number of studies had not previously been included in synthesised reviews, including the 44% (n = 19) of the evidence which came from before and after (B&A) studies and the inclusion of this methodological design enabled a more accurate representation of the current evidence, despite the limitations of this approach. There was a high level of heterogeneity in the research designs, interventions and measures used within the relatively small body of evidence, so a systematic review approach – instead of a meta-analysis – was used to synthesise what is known and highlighted what remains unknown about the efficacy of psychological interventions in the MHA context; with recommendations for future research based on the gaps in literature clearly evidenced. The results are perhaps of foremost relevance for institutions in England and Wales considering the direction of future research funding for psychological interventions for people detained under the MHA

Empirical Project

The empirical research project was a progression from previous qualitative research (Beech et al., 2019 and Peay, 2016) and provides a novel contribution to the small body of literature that has looked at mental health in the courtrooms (Bradley Report, 2009). It is the first piece of experimental research to focus

on sentencing decisions in the context of the MHA. The findings were able to quantifiably show the inconsistency in application of *Vowles* sentencing criteria and explore the relationships between diagnosis, beliefs about mental health and final sentencing outcome. These findings provide the rationale for future research to be completed with a sample of more senior judiciary members to further explore the role of individual bias in the sentencing of mentally disordered offenders (MDOs).

Limitations

Systematic Review

The effect direction plots enabled effect direction, statistical significance and the size of the intervention group to be visually summarised, however this visual representation of study findings is limited, as it does not account for use of a control group, or the quality of evidence. Hence, a B&A study may be visually represented as equivalent to a RCT. To counteract this limitation, as it was considered important not to omit the nineteen B&A studies which made up 44% of the body of evidence, additional information was included within the tables regarding study design, control group and overall study quality. The main conclusion to be drawn from the overall data synthesis is that the evidence base is sparse and comprised of many uncontrolled and otherwise low-quality studies which require follow up investigation, and so, any additional conclusions drawn about the efficacy of specific psychological interventions within the context of the MHA should be extremely tentative. Ultimately there is not enough literature and too much heterogeneity to answer the original systematic review question: what is the efficacy of psychological treatments for people detained under the MHA? The significance of this conclusion is emphasised when considered against both the human and financial costs of subjecting an individual to an MHA detention.

Empirical Project

The sample of legal and ‘non-legal’ volunteers presents a significant limitation in generalisability of the empirical research project. Prior to recruitment, an enquiry was made to Prolific (the online participant pool) regarding their definition of ‘legal professional’ for screening participants’ eligibility for the study. However, a number of participants (n = 54) selected ‘non-legal’ on the survey form, due to working in non-legal roles within the legal sector. Based on the filters we applied, where we specified ‘legal professional’

under job role, in addition to the 'legal sector' industry filter, these participants should not have been able to access the survey. Despite this, the findings do present a rationale for further research in a more senior legal sample, where you may reasonably expect similar individual differences in beliefs to affect decision making. Prior to recruitment, enquiries were also made to the Judicial College and Bar Council regarding recruitment of more senior legal professionals. An application was approved by the Judicial College to recruit judges in 2022, however there was not sufficient time to utilise this access for the empirical research project reported in this thesis portfolio. Other limitations of the study are reflected on in the Empirical Project featured in Chapter Four, which perhaps most notably include reflections on the measures used and vignette design.

Clinical Implications

Both the systematic review and the empirical research project have potential real world implications regarding who receives what treatment within the context of the MHA. The systematic review has highlighted the sparsity of evidence that clinicians should be cautious of when offering psychological interventions, as much of the recommended treatment is drawn from the wider evidence base, much of which comes from community based studies outside of the MHA context. Moreover, in terms of service development, the findings suggest that, even in the absence of large-scale, multi-site controlled studies, clinicians could fill this gap through a systematic use of an agreed framework of clinical outcome measures, recording clear data about interventions given to a particular client, and subsequently publishing outcome data to shed more light onto the efficacy of psychological interventions being delivered in settings where patients are detained under the MHA. The findings from the empirical research project also present real world implications, as they suggest that the process of sentencing MDOs and deciding who is detained under the MHA requires further safeguards against personal bias, which may involve a standardised reporting framework for clinicians called as expert witnesses. Further exploration is needed first - given that this study was the first of its kind - using a senior judiciary sample to see if similar findings are replicated.

Future Research

The systematic review has highlighted the clear need for larger scale Randomised Controlled Trials (RCTs) in secure, acute and LD inpatient settings in England and Wales with longer term follow up, blind

assessors and a combination of self-report and clinician rated measures, as well as relevant measures related to behavioural factors (for instance incident, readmission and reoffending rates). A greater representation of female and non-white groups and primary diagnoses of affective disorders, are also needed, to be able to generalise findings to these groups. The empirical research project has highlighted the potential for individual perceptions regarding the origins of mental health to influence decision making in the sentencing of MDOs. The Judicial College has granted access to judges in England and Wales which offers the opportunity for a follow-up study to explore how reliably sentences are determined and what additional safeguards may be needed to ensure a robust, standardised sentencing process.

Reflections

In hindsight, the empirical project could also have explicitly explored legal professionals' perceptions of the efficacy of psychological interventions, given that the evidence is sparse and individual perceptions of treatment efficacy may inform decisions around whether a secure hospital is considered more appropriate than prison. This would have provided a further link between the two chapters, in regard to the potential importance of a robust evidence base being accessible to legal professionals. Particularly, as recommendations in the empirical research project point towards standardised reports regarding diagnoses, recommended treatment and efficacy of such treatment – as perceptions appear to differ for the same symptoms, depending on diagnostic label. The uncertainty regarding the most effective treatment options in the MHA context may be interacting with uncertainty around sentencing decisions and this thesis portfolio could have talked to that point more directly had the empirical research project survey featured a question exploring this.

On reflection, the process of producing the thesis portfolio has left me more critical of systems designed with the best intentions of helping and protecting those in need; systems which elevate individuals into positions of power, based on the assumption of expert knowledge. Perhaps the most important implication from the present research is to suggest that such power must be tempered with an attitude of humility that reflects our still, overall, relatively poor understanding of what mental health problems are, how they should be described and classified, and how they are best treated. This may extend to all actors

involved in the process of detaining and providing treatment to somebody against their will; whether this be judges, clinicians or expert witnesses. Unfortunately, the systematic review highlighted a stark lack of evidence for psychological interventions in inpatient settings for those receiving treatment within the coercive context of detention under the MHA. In any other healthcare context, I wonder if we would continue to recommend and deliver treatment with such a distinct lack of evidence in the setting in which its delivered? Moreover, the empirical research project highlighted to me the importance of having safeguards in place to control for individual misconceptions around diagnoses, origins of mental health and treatment efficacy. The current absence of such standardised safeguards in the courtroom appears to mean that individuals with the symptomology may be subject to different detentions in hospital, or prison, depending on individual bias. These findings do not instil confidence in our current legal or psychiatric systems. It is a shame that the permission to recruit judges from the Judicial College came too late to be utilised for this thesis portfolio, as this would have offered a novel contribution using the highest quality participants in judges. However, it would not have been possible to request permission at an earlier point and the approval was somewhat surprising given the lack of previous literature in a less senior population; a gap which this study has begun to fill, strengthening the argument for more research using senior members of the judiciary.

Overall Conclusion

The systematic review and empirical research project reported in this thesis portfolio provide novel contributions to the literature regarding the MHA. The findings highlight the gaps in literature relating to the efficacy of psychological interventions for those detained under the MHA and suggest that sentencing decisions regarding who gets detained under the MHA require further safeguards from individual bias. The findings from the empirical research project should be treated as a preliminary indicator for further research with more senior judiciary members.

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Appendices

Appendix A. Author Guidelines for the British Journal of Psychiatry
Systematic Review Guidelines

- Systematic reviews submitted to *BJPsych* should be 'first in field', explicating important findings in fields where no systematic review has yet been published or where information in the literature is conflicting. They are expected to be a clear building block upon which further research in the field is undertaken.
- *BJPsych* prioritises systematic reviews and narrative reviews will be published only under exceptional circumstances. Please consider submitting narrative reviews to *BJPsych Open* or *BJPsych Bulletin*.
- We require authors to register the protocol for systematic reviews before data extraction on an accessible, searchable site such as PROSPERO and include the registration number in the manuscript file. If the review has not been registered, we are unable to consider your submission.
- The word count should not exceed 6,000 words (excluding references, tables and figure legends) and may include up to 75 essential references (in addition to articles included as part of the review). Only papers directly referred to should be directly referenced in the main manuscript file; large data sets should be included in the supplementary material.
- Please include a structured abstract of up to 250 words with the headings: Background, Aims, Method (including data sources, study selections, synthesis approach), Results, Conclusions.
- The main text should include the following sections: Introduction, Method, Results and Discussion.
- It is important that the **Method** section clearly describes the search strategy, study selection criteria and synthesis approach in sufficient detail to ensure the method can be replicated to extract the same data with the same or similar analysis. This should include information about the protocol registration, review software, data sources (bibliographic databases such as PubMed/MEDLINE, Embase, CINAHL, PsycINFO and reference lists from journals or books), MeSH and free text search terms and filters, dates included in the search, screening process, language limitations, inclusion and exclusion criteria, study selection and synthesis approach. To ensure a comprehensive review of the literature, we encourage consideration of publications in non-English languages. Ideally the search should be as current as possible with the search date noted in the manuscript. Please describe how the quality of evidence was evaluated and explain whether heterogeneity between studies was investigated and explored.
- The results section should report the results and summarise the quality of the evidence. Where necessary, a statement should be made as to how quality has been used to inform interpretation of results and/or analysis.

- The **Discussion** section should summarise key findings and describe the impact of the results on clinical practice. Authors should discuss both the strengths and the limitations of the evidence and the review.
- In total, up to seven tables and figures identifying the primary finding(s) may be included in the print version of each paper (e.g. five tables and two figures). Additional tables and figures will be included as online only supplementary material. All large tables (exceeding one journal page) will be published as online only supplementary material. Authors are encouraged to present key data within smaller tables for print publication.
- Supplementary tables, figures and data should include (in this order):
  1. PRISMA-P (or equivalent) table
  2. Search strings used for various platforms such as MEDLINE, Scopus etc.
  3. PICOS table (if relevant)
  4. List of all included papers
  5. Additional sensitivity analyses or additional analyses (if relevant)
  6. Publication bias: a funnel plot and additional analyses undertaken where necessary
  7. Quality assessment
- Authors should include a GRADE assessment of the findings or equivalent approach to place the importance of the findings in context.
- Previously published Reviews for groups such as the Cochrane Collaboration and the National Institute for Health and Care Excellence should be submitted with the latest version of the parent review and its status, so an informed decision can be made about the added value of the submitted paper.

Appendix B. Full Search Strategy

1. **Psychological Treatment**

   (“psychotherap*” OR “person centred” OR "cognitive behavio*" OR “CBT” OR "cognitive therap*" OR “cognitive analytic therap*” OR “ACT” OR “acceptance and commitment*” OR “CFT” OR “compassion focus*” OR “mindfulness” OR “stress reduction” OR “treatment program*” OR "program* development" OR "program* evaluation" OR “relapse prevention” OR "dialectic* behavio*" OR “DBT” OR "schema focus*" OR "schema therap*" OR “interpersonal therap*” OR “mentalisation-based therap*” OR “mentalisation based therap*” OR “family therapy*” OR “systemic therap*” OR “psychodynamic therap*” OR “motivational interviewing” OR “solution focussed therap*” OR “group therap*” OR “therapy group” OR “group intervention” OR “intervention group” OR “group program*” OR “cognitive skills” OR "psychological therap*" OR "psychological intervention*" OR "psychological treatment*" OR “counselling”)

2. **Detained Under Mental Health Act**

   (“mental health act” OR “MHA” OR “section 2” OR “section 3” OR “section 37” OR “section 37/41” OR “section 38” OR “section 45a” OR “section 47” OR “section 47/49” OR “forensic” OR "secure* unit*" OR “secure service*” OR “secure facility” OR “secure hospital” OR “special hospital” OR “state hospital” OR “psychiatric hospital” OR “Broadmoor” OR “Ashworth” OR “Rampton” OR “Carstairs” OR “low secure” OR “medium secure” OR “high secure” OR “regional secure” OR "forensic psychiatr*" OR "forensic mental health" OR "forensic service*" OR "forensic inpatient*" OR "forensic patient*" OR "mentally ill offender*" OR "mentally disordered offender*" OR "personality disordered offender*" OR “psychiatric hospital* OR “acute hospital” OR “acute unit” OR “intensive unit” OR “PICU” OR “psychiatric intensive” OR “inpatient psychiatric” OR “inpatient setting” OR “psychiatric inpatient” OR “acute care” OR “psychiatric ward” OR “locked rehab*”)

3. **United Kingdom**

   United Kingdom OR UK OR England OR Wales OR Britain

4. **Additional limitations applied**

1980-current and journal articles only, so SRs and MAs filtered out before screening

Final Search Strategy

“1 and 2 and 3 and 4” [manually filter: human, English language]

Outcome Comparison (omitted from final search strategy)

(“Compar*” or “matched” or “control*” or “untreated” or "treatment as usual" or "usual treatment" or "standard care" or “waitlist” or “waiting-list” or “allocate*” or “assign*” or “random*” or “trial” or “RCT” or "randomi* control* trial*" or “experiment*” or “quasi*” or "control* trial*" or "clinical trial*")

Appendix C. Author Guidelines for Psychiatry, Psychology and Law

Preparing Your Paper

All authors submitting to medicine, biomedicine, health sciences, allied and public health journals should conform to the Uniform Requirements for Manuscripts Submitted to Biomedical Journals, prepared by the International Committee of Medical Journal Editors (ICMJE).

Structure

1) Main document with author details: Your paper should be compiled in the following order: title page; abstract; keywords; main text (introduction, materials and methods, results, discussion); acknowledgments; disclosure and ethical standards statement; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list). Please label this file 'Main document – with full author details'. A separate title page may also be uploaded if desired, labelled 'Title page (not for review)'.

2) Anonymised manuscript: Please also upload an anonymised version of your manuscript with a title page but with no identifying author information in the title page or body of the manuscript. Please label this file 'Main document – Anonymous'.

3) Tables and figures: Please add any tables or figures as separate documents. Please label these file as 'Tables' and/or 'Figures' as appropriate.

Word Limits

Please include a word count for your paper.

A typical paper for this journal should be no more than 12000 words, inclusive of tables, references, figure captions.

Style Guidelines

Please refer to these quick style guidelines when preparing your paper, rather than any published articles or a sample copy.

Please use British (-ise) spelling style consistently throughout your manuscript.

Any form of consistent quotation style is acceptable. Please note that long quotations should be indented without quotation marks.

Manuscripts should be prepared depending on whether they are psychological, psychiatric, or legal in nature:

Psychological manuscripts should be prepared in accordance with the format and style specified in the 'Publication Manual of the American Psychological Association', fifth edition. Pages should be numbered consecutively. References should be cited in the text as specified in the Publication Manual of the American Psychological Association, seventh or current edition. A concise description of APA referencing style can be found at https://www.tandf.co.uk//journals/authors/style/reference/tf_APA.pdf . Personal communications should be cited as such in the text and should not be included in the reference list. For an overview of APA style (including referencing) visit https://apastyle.apa.org/

Formatting and Templates

Papers may be submitted in Word format. Figures should be saved separately from the text. To assist you in preparing your paper, we provide formatting template(s).

Word templates are available for this journal. Please save the template to your hard drive, ready for use.

If you are not able to use the template via the links (or if you have any other template queries) please contact us here.

References

Please use this reference guide when preparing your paper.

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Checklist: What to Include

1. Author details. Please ensure everyone meeting the International Committee of Medical Journal Editors (ICMJE) requirements for authorship is included as an author of your paper. Please ensure all listed authors meet the Taylor & Francis authorship criteria. All authors of a manuscript should include their full name and affiliation on the cover page of the manuscript. Where available, please also include ORCiDs and social media handles (Facebook, Twitter or LinkedIn). One author will need to be identified as the corresponding author, with their email address normally displayed in the article PDF (depending on the journal) and the online article. Authors' affiliations are the affiliations where the research was conducted. If any of the named co-authors moves affiliation during the peer-review process, the new affiliation can be given as a footnote. Please note that no changes to affiliation can be made after your paper is accepted. Read more on authorship.
2. Should contain an unstructured abstract of 150 words.
3. Graphical abstract (optional). This is an image to give readers a clear idea of the content of your article. It should be a maximum width of 525 pixels. If your image is narrower than 525 pixels, please place it on a white background 525 pixels wide to ensure the dimensions are maintained. Save the graphical abstract as a .jpg, .png, or .tiff. Please do not embed it in the manuscript file but save it as a separate file, labelled GraphicalAbstract1.
4. You can opt to include a video abstract with your article. Find out how these can help your work reach a wider audience, and what to think about when filming.
5. At least 10 keywords. Read making your article more discoverable, including information on choosing a title and search engine optimization.
6. Funding details. Please supply all details required by your funding and grant-awarding bodies as follows:

For single agency grants…

This work was supported by the [Funding Agency] under Grant [number xxxx].

For multiple agency grants…

This work was supported by the [Funding Agency #1] under Grant [number xxxx]; [Funding Agency #2] under Grant [number xxxx]; and [Funding Agency #3] under Grant [number xxxx].

7. Disclosure statement. This is to acknowledge any financial or non-financial interest that has arisen from the direct applications of your research. If there are no relevant competing interests to declare please state this within the article, for example: The authors report there are no competing interests to declare. Further guidance on what is a conflict of interest and how to disclose it.

8. Supplemental online material. Supplemental material can be a video, dataset, fileset, sound file or anything which supports (and is pertinent to) your paper. We publish supplemental material online via Figshare. Find out more about supplemental material and how to submit it with your article.

9. Figures. Figures should be high quality (1200 dpi for line art, 600 dpi for grayscale and 300 dpi for colour, at the correct size). Figures should be supplied in one of our preferred file formats: EPS, PS, JPEG, TIFF, or Microsoft Word (DOC or DOCX) files are acceptable for figures that have been drawn in Word. For information relating to other file types, please consult our Submission of electronic artwork document.

10. Tables. Tables should present new information rather than duplicating what is in the text. Readers should be able to interpret the table without reference to the text. Please supply editable files.

11. Equations. If you are submitting your manuscript as a Word document, please ensure that equations are editable. More information about mathematical symbols and equations.

12. Units. Please use SI units (non-italicized).

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You must obtain the necessary permission to reuse third-party material in your article. The use of short extracts of text and some other types of material is usually permitted, on a limited basis, for the purposes of criticism and review without securing formal permission. If you wish to include any material in your paper for which you do not hold copyright, and which is not covered by this informal agreement, you will need to obtain written permission from the copyright owner prior to submission. More information on requesting permission to reproduce work(s) under copyright.

Disclosure and Ethical Standards Statement

The journal now has a requirement for all manuscripts that are submitted to it to include a statement to confirm compliance with ethical standards and ethical approval. This requirement has been introduced to ensure that the journal complies with the minimal requirements for Medline indexing. All manuscripts submitted to the journal must include (in the ‘main document with author details’) a statement in the manuscript as outlined below in the exact form of either Option 1 or Option 2 (below), as well as including relevant information about ethics and informed consent in the Methods section (see ‘Complying with Ethics of Experimentation’) below. Manuscripts that do not include this statement, will not be considered for publication in the journal. Please include the appropriate statement (choosing option 1 or 2) in your ‘main document_with author details’.

Disclosure and Ethical Standards Statement Option 1: Studies with no human participants

Declaration of conflicts of interest

Author A [add name of author here] has declared no conflicts of interest

Author B [add name of author here] has declared no conflicts of interest

Author C [add name of author here] has declared no conflicts of interest

Ethical approval

This article does not contain any studies with human participants or animals performed by any of the authors.

Disclosure and Ethical Standards Statement Option 2: Studies with human participants

Declaration of conflicts of interest

Author A [add name of author here] has declared no conflicts of interest

Author B [add name of author here] has declared no conflicts of interest

Author C [add name of author here] has declared no conflicts of interest

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee [insert as appropriate, including name of approving committee and any approval numbers] and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from all individual participants included in the study

Disclosure of Benefit or Interest Statement

Authors are required to disclose and acknowledge any financial benefit or interest that has arisen from the direct applications of your research. If you have benefits or interests to declare, this must be included in the disclosure and ethical standards statement. If you have no interests to declare, please state this using the wording in the disclosure and ethical standards statement. For all NIH/Wellcome-funded papers, the grant number(s) must be included in the declaration of interest statement. Read more on declaring conflicts of interest.

Clinical Trials Registry

In order to be published in a Taylor & Francis journal, all clinical trials must have been registered in a public repository at the beginning of the research process (prior to patient enrolment). Trial registration numbers should be included in the abstract, with full details in the methods section. The registry should be publicly accessible (at no charge), open to all prospective registrants, and managed by a not-for-profit organization. For a list of registries that meet these requirements, please visit the WHO International Clinical Trials Registry Platform (ICTRP). The registration of all clinical trials facilitates the sharing of information among clinicians, researchers, and patients, enhances public confidence in research, and is in accordance with the ICMJE guidelines.

Complying With Ethics of Experimentation

Please ensure that all research reported in submitted papers has been conducted in an ethical and responsible manner, and is in full compliance with all relevant codes of experimentation and legislation. All papers which report in vivo experiments or clinical trials on humans or animals must include a written statement in the Methods section. This should explain that all work was conducted with the formal approval of the local human subject or animal care committees (institutional and national), and that clinical trials have been registered as legislation requires. Authors who do not have formal ethics review committees should include a statement that their study follows the principles of the Declaration of Helsinki.

Consent

All authors are required to follow the ICMJE requirements on privacy and informed consent from patients and study participants. Please confirm that any patient, service user, or participant (or that person's parent or legal guardian) in any research, experiment, or clinical trial described in your paper has given written consent to the inclusion of material pertaining to themselves, that they acknowledge that they cannot be identified via the paper; and that you have fully anonymized them. Where someone is deceased, please ensure you have written consent from the family or estate. Authors may use this Patient Consent Form, which should be completed, saved, and sent to the journal if requested.

Health and Safety

Please confirm that all mandatory laboratory health and safety procedures have been complied with in the course of conducting any experimental work reported in your paper. Please ensure your paper contains all appropriate warnings on any hazards that may be involved in carrying out the experiments or procedures you have described, or that may be involved in instructions, materials, or formulae.

Please include all relevant safety precautions; and cite any accepted standard or code of practice. Authors working in animal science may find it useful to consult the International Association of Veterinary Editors' Consensus Author Guidelines on Animal Ethics and Welfare and Guidelines for the Treatment of Animals in Behavioural Research and Teaching. When a product has not yet been approved by an appropriate regulatory body for the use described in your paper, please specify this, or that the product is still investigational.

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On publication, you will be able to view, download and check your article's metrics (downloads, citations and Altmetric data) via My Authored Works on Taylor & Francis Online. This is where you can access every article you have published with us, as well as your free eprints link, so you can quickly and easily share your work with friends and colleagues.

We are committed to promoting and increasing the visibility of your article. Here are some tips and ideas on how you can work with us to promote your research.

Queries

Should you have any queries, please visit our Author Services website.

Appendix D: Six-point *Vowles* Likert Scale Measuring Agreement with Each Criteria.

Participants were asked to rate each of the four criteria on a six-point Likert scale of 1-6 (strongly disagree - 1, moderately disagree - 2, somewhat disagree - 3, somewhat agree - 4, moderately agree - 5, strongly agree - 6)

1) the extent to which the offender's mental health requires treatment
2) the extent to which offending is attributable to the mental health disorder
3) the extent to which offending requires punishment
4) the protection of the public when deciding release and regime of release

Appendix E: Sentencing Options with Descriptive Text

Participants were asked to select one sentence from the options below, with the descriptive text presented alongside each option:

1. Section 37/41 Hospital Order: the offender would go to a secure hospital and receive mental health treatment until deemed well enough to be discharged by a Mental Health Tribunal. They would then be monitored in the community by forensic mental health services.
2. Prison: the offender would go to prison until either the expiry of their sentence or they become eligible for parole. After release, they would be monitored in the community by probation services.
3. Section 45A Hospital Order: the offender would go to a secure hospital and receive mental health treatment, however there would be a minimum sentence attached, meaning if the Mental Health Tribunal felt the offender no longer needed to be in hospital, they could be transferred to prison for the remainder of their sentence until eligible for parole. If released from hospital, they would be monitored by forensic mental health services, if released from prison, they would be monitored by probation services.

Appendix F: Lay Summary

This research study is looking at factors that impact Crown Court sentences for offenders with mental health conditions. Previous research has shown almost a quarter of prisoners arrive having had previous contact with mental health services. So we want to understand how reliably the court decides if a guilty offender goes to hospital or prison. This study will help us understand the process more. We will use a scale to measure your beliefs about the causes of mental health to see how certain beliefs may influence the sentences given. We also want to see what role mental health diagnosis has in deciding what sentence is given so you will be randomly allocated a diagnosis. We hope to see if there is any difference in how sentencing criteria is rated as well as the final sentencing verdict.

The study will present you with a mock court case video and then your mental health beliefs will be measured. We will also measure your ratings for each part of the sentencing guidance and then ask for your decision on the final sentence. This will help us to understand factors affecting this decision making process.

We estimate around 25,000 people with previous mental health problems receive prison sentences every year. We want to make sure the decision between going to hospital, prison or a combination of the two is reliable. This study could help to inform us how reliable these decisions are currently.

Appendix G: Participant Information Sheet

The participant information sheet was attached to the online survey as a PDF document. All participants had to confirm they had read this document and wished to participate.

PARTICIPANT INFORMATION STATEMENT

(1) What is this study about?

You are invited to take part in this study looking into factors influencing sentencing for offenders with mental health problems. We are recruiting participants from the law population, to understand the decision making process involved in sentencing during Crown Court cases.

This Information Statement outlines the study to help you decide whether you would like to take part, please read it carefully and raise any questions you may have. Your participation is voluntary and you retain the right to withdraw at any point.

By giving consent to take part in this study you are telling us that you:

- Understand what you have read.
- Agree to take part in the research study as outlined below.
- Agree to the use of your personal information as described.
- You have received a copy of this Participant Information Statement to keep.

(2) Who is running the study?

This study is being conducted by: George Baldwin and Samantha Young, ClinPsyD Researchers, Norwich Medical School, University of East Anglia.

(3) What will the study involve for me?

Your participation requires completion of an online survey, which has multiple sections and will take approximately 30 minutes. You will be provided information about sentencing options, followed by case material. You will then be asked to complete two questionnaires measuring your beliefs about the causes of mental health and then asked to give a sentencing verdict.

(4) How much of my time will the study take?

The survey will take approximately 30 minutes to complete.

(5) Do I have to be in the study? Can I withdraw from the study once I've started?

Participation is voluntary, your decision whether to participate will not affect current or future relationships with anyone associated with the University of East Anglia. You can withdraw from the study prior to completion. Once you have started the survey, you will need to contact us to request that your data is not be saved.

(6) Are there any risks or costs associated with being in the study?

This study is not expected to cause any distress, however you are advised to stop completing the survey if at any time you feel uncomfortable. If you complete the survey and then experience distress, please contact us by email (g.baldwin@uea.ac.uk / samantha.young@uea.ac.uk) to discuss issues of concern and signpost you to further support if needed. You can also contact your GP for mental health support. Samaritans offer a 24/7 listening service via 116 123.

(7) Are there any benefits associated with being in the study?

This study will hopefully provide insight into factors influencing sentencing of offenders with mental health difficulties, to inform real life processes and safeguard from unreliable and/or biased real life sentencing.

(8) What will happen to information about me that is collected during the study?

By consenting to participate, you are agreeing to the personal information shared to be collected and used for the purpose of this research study. Any information provided will only be used for the purposes outlined in this Participant Information Statement unless you consent otherwise. The 2018 General Data Protection Regulation Act and the University of East Anglia Research Data Management Policy (2019) will be adhered to at all times. Your information will be stored securely using UEA cloud storage and your identity/information will only be disclosed with your permission, except as required by law. Findings from this study may be included in publication, but you will not be identifiable. Data will be stored until analysis and publication are completed and then retained for ten years.

(9) What if I would like further information about the study?

When you have read this information, we will be available to discuss it with you further and answer any questions you may have. You can contact us via g.baldwin@uea.ac.uk / samantha.young@uea.ac.uk).

(10) Will I be told the results of the study?

You have a right to receive feedback about the overall results of this study. You can request this by contacting us via g.baldwin@uea.ac.uk / samantha.young@uea.ac.uk). Overall results will be provided in the form of a one page lay summary which you will receive after the study is finished.

(11) What if I have a complaint or any concerns about the study?

The ethical aspects of this study have been approved under the regulations of the University of East Anglia's Faculty of Medicine and Health Sciences Ethics Committee.

If there is a problem please let us know. You can contact us via the University at the following address:

George Baldwin & Samantha Young

Norwich Medical School

Faculty of Medicine and Health Sciences

University of East Anglia

NORWICH NR4 7TJ

(g.baldwin@uea.ac.uk / samantha.young@uea.ac.uk)

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the administration team who will direct your concerns to a senior faculty member: med.reception@uea.ac.uk

(12) OK, I want to take part – what do I do next?

You need to return to the online survey and click to confirm you have read this form and wish to participate.

Appendix H: Consent Form

The consent form below was included as an item within the online survey, following the participant information sheet. Participants could not continue the survey without confirming consent.

By acknowledging that I have read this consent form and clicking to proceed with the online survey, I agree to take part in this research study.

In giving my consent I state that:

- I understand the purpose of the study, what I will be asked to do, and any risks/benefits involved.

- I have read the Participant Information Statement and have been able to discuss my involvement in the study with the researchers if I wished to do so.

- The researchers have answered any questions that I had about the study and I am happy with the answers.

- I understand that being in this study is completely voluntary and I do not have to take part. My decision whether to be in the study will not affect my relationship with the researchers or anyone else at the University of East Anglia now or in the future.

- I understand that I can withdraw from the study at any time.

- I understand that I may stop the interview at any time if I do not wish to continue, and that unless I indicate otherwise any recordings will then be erased and the information provided will not be included in the study. I also understand that I may refuse to answer any questions I don't wish to answer.

- I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to. I understand that information about me will only be told to others with my permission, except as required by law.

- I understand that the results of this study may be published, but these publications will not contain my name or any identifiable information about me.

Appendix I: Debrief

The debrief sheet was attached to the end of the online survey as a PDF document. All participants had to confirm they had read this document before submitting the online survey.

DEBRIEF

Thank you for taking part in this study looking into factors influencing sentencing for offenders with mental health problems. If you wish for your data to be removed or you are experiencing any distress following the survey, please contact us by email (g.baldwin@uea.ac.uk / samantha.young@uea.ac.uk) or telephone (01603 592308) to discuss issues of concern and signpost you to further support if needed.

You can also contact us to request a lay summary of our findings via the University at the following address:

George Baldwin & Samantha Young

Norwich Medical School

Faculty of Medicine and Health Sciences

University of East Anglia

NORWICH NR4 7TJ

(g.baldwin@uea.ac.uk / samantha.young@uea.ac.uk)

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the administration team who will direct your concerns to a senior faculty member: med.reception@uea.ac.uk

Kind regards,

George Baldwin & Samantha Young

Appendix J: Video Transcript

The same script was used for all three conditions with only the diagnosis changing (schizophrenia/EUPD/complex mental health). The interchangeable diagnostic labels are underlined and in bold.

Your honour, the defendant, Mr James Smith, DOB: 4/10/99, has pleaded guilty to committing the offence of unlawfully and maliciously causing grievous bodily harm with intent to cause grievous bodily harm, contrary to section 18 of the Offences Against the Person Act 1861. He attacked the victim, Robert Peterson, with a weapon causing grievous bodily harm.

The facts of the case are as follows. On the 13th December 2020, the victim and defendant were seen arguing on the corner of London Road. The victim was Mr Smith's site manager at Lions Construction, where the defendant had worked as a labourer. Whilst working at the construction site Mr Smith had been given numerous warnings for repeatedly turning up to work late, failing to follow instructions and frequently getting into arguments with other site workers. The victim had approached Mr Smith after he arrived an hour late for work, to inform him he was no longer required and instructed him to leave the premises. The victim testified that Mr Smith was angry and aggressive, swearing at him and storming off. The following day, the victim reported encountering Mr Smith near the construction site on the corner of London Road. Mr Smith waited for the victim to finish work, where he was on his own, then entered the site, blocking the victim's exit. The victim reported Mr Smith to be loud and aggressive and difficult to follow, talking quickly and incoherently about his job. When the victim asked Mr Smith to leave, Mr Smith grabbed a steel scaffold pole from the floor and immediately struck the victim five times, including once to the head, causing permanent facial disfigurement and resulting in the victim being unable to work for 3 months. Mr Smith was arrested at the scene after a witness from the adjacent construction site alerted the police to the incident. The victim's personal statement states "The actions of Mr Smith have completely changed my life. I spent over three months in hospital and despite numerous surgeries, I still see the damage caused by Mr Smith's

attack every time I look in the mirror. Since the attack, I have been unable to return to work which has also meant that I am struggling financially. I am no longer the confident and care-free man I was."

Your Honour, as the judge presiding over this case, it is your job to determine Mr Smith sentence.

For the purposes of sentencing, I present as evidence the report of Dr Robert Taylor, a psychiatrist instructed to interview the defendant and report on the defendant's mental health condition in relation to the offence. His expert opinion has been corroborated by a second opinion from psychiatrist, Dr Amanda Bell. As this report confirms, Dr Taylor states that the defendant suffers from [**Emotionally Unstable Personality Disorder which is a recognised medical condition or Schizophrenia which is a recognised medical condition or a complex mental health problem]**. Dr Taylor notes as part of this condition, unstable emotions (rapidly changing from being calm to angry), paranoid thoughts (expecting others to harm him), auditory hallucinations (hearing voices) and impulsive behaviours are present. Dr Taylor notes in the report that it is not uncommon for these symptoms to be worsened by stressful life events, such as a job loss. Indeed, during his childhood, Mr Smith attended a number of different schools. He described initially moving schools due to experiencing bullying from an early age as he would often turn up to school with worn and dirty clothing. However, later, Mr Smith begun to present with challenging behaviours which resulted in him being suspended and expelled from a number of schools, eventually leading him to be placed in a pupil referral unit for his challenging behaviour. Despite this history, Mr Smith does not have any previous convictions. He states remorse for the incident for which he has plead guilty, but has also insisted that the victim firing him was provocation. Mr Smith has found it difficult to find stable employment, he has had approximately seven jobs in the last year, with many roles ending due to disputes or poor attendance. In 2019, Mr Smith's Employment Advisor at the Job Centre attempted to refer him to mental health services due to some odd behaviour, rushed speech and paranoid beliefs (including believing that previous colleagues had plotted against him) that were shared in an appointment. Mr Smith was diagnosed with [**Emotionally Unstable Personality Disorder or Schizophrenia or having a complex mental health problem]** during his mental health assessment, however he subsequently disengaged with treatment offered and was

discharged from the service. Aside from this, however, Mr Smith has had no other contact with mental health services.

Although Dr Taylor was certain that Mr Smith's diagnosed mental health condition would have played a part in the offence, it is difficult to know whether his mental health condition can fully explain his behaviour on the day in question. Certainly, his history suggests that his dismissal may well have led Mr Smith to experience extreme emotions of anger. Further, both experts have suggested that preoccupation with mental health symptoms earlier in the day, may have led him to be late for work and linked to his fears – or paranoia – that some of the workers at the site wanted to 'do him in'. It is perhaps even possible that these fears influenced his reaction to his boss dismissing him. However, both experts found it difficult to extract more detailed information from Mr Smith on this point and there is significant uncertainty. However, as stated, both experts have agreed that Mr Smith's presentation is consistent with **[a diagnosis of Emotionally Unstable Personality Disorder or Schizophrenia or having a complex mental health problem]**. Both experts agree that Mr Smith could benefit from a period of treatment within a hospital environment. Therefore, as the honourable judge presiding over this case, it is down to you to determine Mr Smith's sentencing.

Appendix K: Confirmation Letter from the UEA FMH Research Ethics Committee

Faculty of Medicine and Health Sciences Research Ethics Committee

University of East Anglia

NORWICH MEDICAL SCHOOL
Bob Champion Research & Educational Building
Rosalind Franklin Road
University of East Anglia
Norwich Research Park
Norwich NR4 7UQ

Email: fmh.ethics@uea.ac.uk
www.med.uea.ac.uk

Samantha Young and George Baldwin
Norwich Medical School
University of East Anglia
Norwich Research Park
Norwich
NR4 7TJ

23rd April 2021

Dear Samantha and George

Project Title: The sentencing of Mentally Disordered Offenders: an experimental clinical vignette study to explore the reliability of judgements made using Vowles and the relationships between psychiatric diagnosis, mental health locus of control, mental illness stigma and final sentencing outcome.

Reference: 2020/21-067

Thank you for your email of 22nd April 2021 notifying us of the amendments you would like to make to your above proposal. These have been considered and I can confirm that your amendments have been approved.

Please can you ensure that any further amendments to either the protocol or documents submitted are notified to us in advance, and that any adverse events which occur during your project are reported to the Committee.

Approval by the FMH Research Ethics Committee should not be taken as evidence that your study is compliant with GDPR and the Data Protection Act 2018. If you need guidance on how to make your study GDPR compliant, please contact your institution's Data Protection Officer.

Please can you arrange to send us a report once your project is completed.

Yours sincerely

Dr Jackie Buck
Chair
FMH Research Ethics Committee

Appendix L: Spread of Agreement for each *Vowles* Criteria

Table 7. Spread of Agreement for each Vowles Criteria (n = 198).

Vowles Criteria	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
(1) Extent to which Mental Health Requires Treatment	2.53%	0.51%	0.00%	1.01%	4.04%	91.92%
(2) Extent to which Offence is Attributable to Mental Health	1.01%	1.52%	7.58%	12.12%	51.01%	26.77%
(3) Extent to which Offence Requires Punishment	0.51%	2.02%	4.04%	4.04%	23.74%	65.66%
(4) Extent to which Protection of the Public is Important	1.01%	1.01%	0.51%	1.52%	9.60%	86.36%

Appendix M: Spread of Agreement for the First *Vowles* Criteria per Diagnostic Group

Table 8. Spread of Agreement for the Extent to which Mental Health Requires Treatment (First Vowles Criteria) per Diagnostic Group (n = 198).

Diagnostic Group	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Complex Mental Health (n=60)	1.67%	0.00%	0.00%	0.00%	3.33%	95.00%
EUPD (n=68)	0.00%	0.00%	0.00%	0.00%	2.94%	97.06%
Schizophrenia (n=70)	5.71%	1.43%	0.00%	2.86%	5.71%	84.29%

Appendix N: Spread of Agreement for the Second *Vowles* Criteria per Diagnostic Group

Table 9. Spread of Agreement for the Extent to which the Offence is Attributable to Mental Health (Second Vowles Criteria) per Diagnostic Group (n = 198).

Diagnostic Group	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Complex Mental Health (n=60)	1.67%	0.00%	5.00%	15.00%	50.00%	28.33%
EUPD (n=68)	0.00%	1.47%	13.24%	11.76%	50.00%	23.53%
Schizophrenia (n=70)	1.43%	2.86%	4.29%	10.00%	52.86%	28.57%

Appendix O: Spread of Agreement for the Third *Vowles* Criteria per Diagnostic Group

Table 10. Spread of Agreement for the Extent to which the Offence Requires Punishment (Third Vowles Criteria) per Diagnostic Group (n = 198).

Diagnostic Group	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Complex Mental Health (n=60)	1.67%	1.67%	1.67%	1.67%	25.00%	68.33%
EUPD (n=68)	0.00%	1.47%	2.94%	5.88%	25.00%	64.71%
Schizophrenia (n=70)	0.00%	2.86%	7.14%	4.29%	21.43%	64.29%

Appendix P: Spread of Agreement for the Fourth *Vowles* Criteria per Diagnostic Group

Table 11. Spread of Agreement for the Extent to which Protection of the Public is Important (Fourth Vowles Criteria) per Diagnostic Group (n = 198).

Diagnostic Group	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Complex Mental Health (n=60)	0.00%	0.00%	0.00%	0.00%	6.67%	93.33%
EUPD (n=68)	0.00%	0.00%	0.00%	2.94%	11.76%	85.29%
Schizophrenia (n=70)	2.86%	2.86%	1.43%	1.43%	10.00%	81.43%