Ethnicity and restraint in inpatient psychiatric units

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I, Max O'Collins, declare that this thesis is my own work and that I have correctly acknowledged the work of others. This thesis and its contents have been reviewed by my academic supervisors: Dr Shihning Chou and Professor Tom Dening. There are no other authors in the contents of this thesis.

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Thesis Abstract

Background In society black people are seen as more threatening than white people. More black people are restrained in inpatient settings when compared to white people. There seems to be a lack of research into the link between these two phenomena.

Aims of the thesis To consider why more black people are restrained in inpatient mental health settings, and whether this can be attributed to an ingroup-outgroup effect, attitudes and or threat perception.

Methods A systematic review (Chapter Two) examined whether these observed differences in restraint rates are a consistent finding across differing cultures and between differing ethnic groups. A psychometric critique (Chapter Three) of The Attitudes to Mental Illness Questionnaire (AMI) was used to assess its suitability for Chapter Four. A between-subjects design was used to compare attitudes shown towards patients from a black, white and mixed ethnic group (Chapter Four). A final study was used to examine the differences in staff's feelings of anxiety and responses, when presented with a black or white patient presenting with certain risk behaviours (Chapter Five).

Findings Chapter Two found that some, but not all, studies showed there could be a degree of bias in ethnicity affecting the likelihood of being restrained in inpatient services. Chapter Three suggested that the AMI was a suitable tool for use in Chapter Four. Chapter Four found that there were some discrepancies in the way black people with mental health problems are viewed, when compared to white people with mental health problems, albeit not to a statistically significant level. Chapter Five showed there were some discrepancies in the threat responses shown towards black people with mental health problems, when compared to white people with mental health problems.

Implications Fully understanding the relationship between ethnicity and the likelihood of restraint in inpatient psychiatric settings is complex. There appears to be some evidence to suggest that unconscious bias might impact how black patients are viewed and treated, in both instances in a more negative light, when compared to white patients. Staff should receive training, and reflective spaces should be used, to increase awareness of these issues in a bid to improve the experiences of black patients in mental health hospitals.

Keywords ethnicity, restraint, mental health, black, bias

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Chapter One: Introduction

Threat perception is a multifaceted process and there are many components that inform how an individual perceives threat from other people. From overt cues, such as faces and facial expressions (Bannerman, Milders, De Gelder & Sahraie, 2009), physical characteristics (Bailey, Caffrey III & Hartnett, 1976; McElvaney, Osman & Mareschal, 2021) and the environment one is in (Martin & Levey, 1978), to more subtle triggers such as knowing someone's history of violence (Crichton, 1997) and being exposed to various media (Correll, Park, Judd & Wittenbrink, 2007). Humans constantly synthesise information about people they see in order to make fast and accurate risk assessments, a process known as profiling. Profiling is an important evolutionary concept; it is used by everyone to make judgments about who and what they see, and it can help to make quick decisions about threatening situations that ultimately keep people alive. However, it can also cause individuals to be misrepresented and unfairly treated through confirmation bias and stereotyping.

Conflation between ethnicity and race

Prior to considering the rest of this thesis, it should be noted that there are differences between ethnicity and race. Ethnicity is the idea of grouping people based on shared cultural characteristics whereas race predominantly considers the physical characteristics of an individual such as the colour of one's skin (Bulatao & Anderson, 2004). However, due to societal conflation of the two terms, and the interchangeability of use of the two in key literature, both are referenced throughout this thesis at various points despite the primary focus being on the ethnicity of individuals.

Ethnicity and threat perception in society

In western society black people are often perceived as being more threatening than white people (Correll, Urland & Ito, 2006; Greenwald, Oakes & Hoffman, 2003; Plant, Goplen & Kunstman, 2011). This leads to black people being subject to disproportionate responses compared to their white counterparts, with black people more likely to be stopped and searched in the United Kingdom, when compared with every other ethnic group. When compared to white people in particular, black people are nine times more likely to be stopped and searched (The Home Office, 2020). Moreover, when faced with legal proceedings, black people are more likely to receive lengthier sentences for certain crimes when compared to white people carrying out the same offences (Ministry of Justice, 2020).

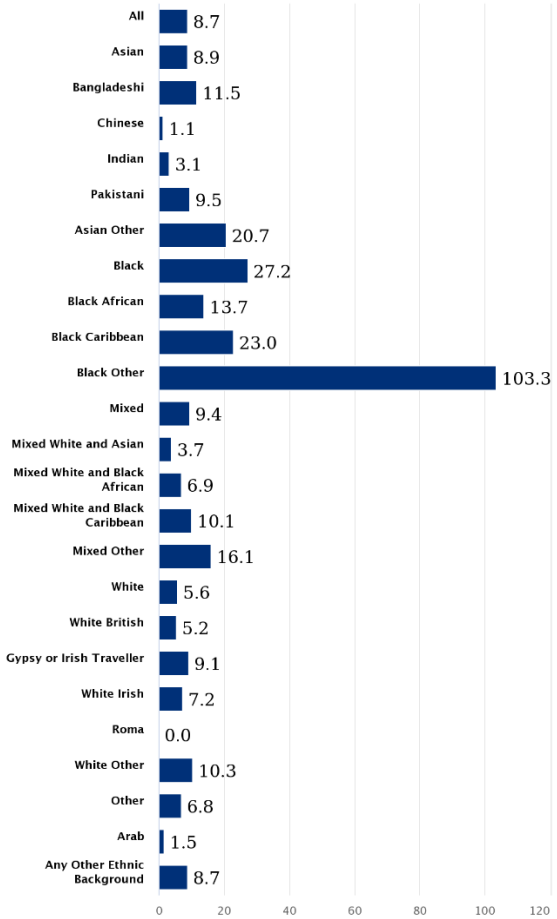

Figure 1.1: Stop and search rate per 1,000 people in England and Wales by ethnicity (Ministry of Justice, 2020)

Further research has shown that black people are more likely to be shot at when presenting in an unthreatening manner (Correll, Urland & Ito, 2006). This effect has been shown to be consistent over time, with a study by Seitz, Good and Peck (2020) using virtual reality to find a similar response pattern, namely black people being more likely to be shot at.

The causes of these phenomena have often been explored. One consideration is whether black people are portrayed in a negative light within western society. This seems to be the case, with prejudice and negative attitudes rooted in the association of black people with slavery and colonialism, causing a depiction of them in society as subhuman beings (Bennett & Plaut, 2017). Negative stereotypes remain within society and have been maintained in part due to the media portrayal of black offenders. The media - and more recently social media - are frequently manipulated to present personal and political agendas. Duxbury, Frizzell & Lindsay (2018) highlighted the discrepancies in the reporting of mass shootings, with the actions of white individuals more likely attributed to mental health problems than black individuals. Moreover, they found that white individuals are presented in a more sympathetic light in the media compared to black individuals, who are more likely to be described as violent threats to society (Duxbury, Frizzell & Lindsay, 2018). Furthermore, in TV reports white people are more likely to be used to represent victims or police officers when compared to other ethnic groups (Dixon, 2017).

In real terms within society, it affects how black people are treated, especially in the context of feeling threatened. But as evidenced by Figure 1.1, it is not just a black problem, as there are large numbers of people from non-white British ethnic groups who are more likely to experience stop and searches, when compared to white British individuals. It is possible that non-white British people experience such discrimination due to societal bias, driven by western media and culture. Studies have shown that within Western society, ‘a good number’ of people have negative views of Muslim people. For example, one study found that

29% of British people view Muslim people to be violent and 27% believe that Muslim people are members of Al Qaeda, with numbers for both higher in other Western societies such as the USA, Spain and France (Ciftci, 2012). Again, it is possible that this is driven by media coverage, with individuals from a Muslim background more likely to be negatively framed, with Islam described as a violent religion (Ahmed & Matthes, 2017).

However, other factors may be important. Socioeconomic status could be a moderating factor, with socioeconomic status being a key predictor in the likelihood of offending (Reitzel, 2019). There are links between minority ethnic groups and low socioeconomic status (Office for National Statistics, 2018). Therefore, it is possible that social disadvantage is in fact a predictor for being perceived as more threatening.

Furthermore, perhaps increased perception of threat from black people may be due to an ingroup-outgroup effect, rather than bias against specific ethnic groups. The ingroup-outgroup effect suggests that people who share common features, whether this be demographic or cultural, are seen in a more favourable light, whilst those who are not part of the same group, are not (Efferson, Lalive & Fehr, 2008). Studies have explored how identity congruence impacts threat perception showing that individuals tend to feel less threatened by individuals they identify with (Miller, Maner, & Becker, 2010). When presented with faces that were not congruent with their own race, functional magnetic resonance imaging (fMRI) showed that there was an increase in activity in the area of the brain responsible for detecting threat, the amygdala (Hart, Whalen, Shin, McInerney, Fischer & Rauch, 2000). A further study reinforced these findings by showing that, when presented with mens' faces, black participants did not find black faces as threatening as the white participants who were presented with the same face (Glasgow, Imbriano, Jin & Mohanaty, 2022).

Ethnicity and threat perception in health settings

As identified, a black person is more likely to be stopped and searched when compared to a white person. It is important to consider how this discrepancy in threat perception might affect individuals in other situations, such as mental health settings. Black people are more likely to experience mental health difficulties (MIND, 2019), and as shown in figure 1.2, black people are over four times more likely to be detained under the Mental Health Act when compared to white individuals, over three times more likely when compared to people from an Asian background, and generally more likely, when compared to any other ethnic background (NHS Digital, 2023).

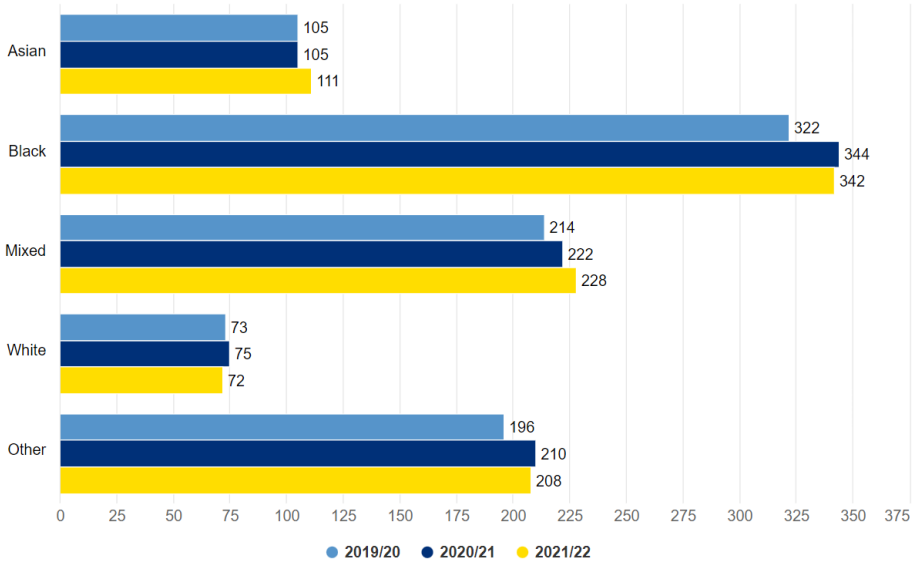

Figure 1.2: Number of detentions under the Mental Health Act per 100,000 people by aggregated ethnic group (standardised rates) (NHS Digital, 2023)

Being detained under the Mental Health Act constitutes a form of restraint as it limits an individual's ability to live a life free of typical restrictions. However, there are more tangible restraints that can occur in inpatient settings.

Understanding restraints

A restraint occurs in inpatient services when an individual is presenting in a manner of acute mental distress that needs to be contained. Restraint is a coercive intervention (Paterson & Duxbury, 2007). Restraint is essentially the most radical form of response to threat and is only intended to be used when threat is at a level whereby an individual is possibly inflicting harm on themselves or another individual (Paterson & Duxbury, 2007). Three types of restraints often occur in mental health settings, manual physical restraint, forcible chemical restraint and environmental restraint.

Physical restraint is an intervention which involves restricting a patient's ability to cause harm to themselves or others. It is often employed as a last resort and only if threat is imminent (Sailas & Wahlbeck, 2005). This is done by constraining a patient's ability to move freely by using certain taught techniques, intended to immobilise the patient, whilst also trying not to inflict pain (Kaplan & Sadock, 1989). The level of physical restraint may escalate according to the circumstance, and, although guidance encourages such practice to not take place, in extreme circumstances this may require restraining a patient on the floor. Evidence has shown that this can pose a significant threat to the life of the patient (Meehan, McGovern, Kinery, Schiffmann & Stedman, 2022).

Chemical restraints in inpatient settings involve administering medication (Tardiff, 1992). It is important to consider the different forms this may take, it has been argued that prescription of medication alone is a form of chemical restraint depending on the interaction it has with the body (Parker, 2015). For example, if a medication causes drowsiness or an impairment in one's motor skills, continued prescription of such a medication could be interpreted as a form of chemical restraint (Parker, 2015). For the purpose of this thesis, chemical restraint was only considered in terms of PRN (which means 'when required')

medication, or medication that is forcibly administered, usually an antipsychotic or benzodiazepine administered via an intra-muscular injection (Parker, 2015).

Environmental restraint can also take several forms. The most significant form of this restraint might involve placing a patient in a seclusion room, a sterile room which aims to contain and isolate an individual from other people on the ward (Gutheil, 1978). An alternative that falls short of using a seclusion room is to segregate the patient by blocking off certain parts of the ward and limiting the amount of contact the segregated patient has with other patients (Care Quality Commission, 2020).

Mechanical physical restraint is another method of restraint that is employed in some countries, this involves using items such as belts, handcuffs and straps, to hold someone in place. However, as it is not common practice in the United Kingdom, it was largely not considered in this thesis.

The problems with restraints

It is widely recommended that restraint is avoided wherever possible (NICE Guidelines, 2015). Restraints are a traumatizing experience for both the patient and staff members (Bonner, Lowe, Rawcliffe & Wellman, 2002). For staff, restraints can reawaken previous traumatic experiences (Bonner et al. 2002). For patients, the experience of restraints often lead to feelings of shame and they might isolate themselves afterwards (Bonner et al. 2002). Furthermore, themes of feeling dehumanised, controlled, distressed and fear have been identified as outcomes from experiencing restraint, as well as increasing a risk of retriggering and reexperiencing historical traumas (Cusack, P., Cusack, F., McAndrew, McKeown & Duxbury, 2018). In the longer term, being restrained has been shown to be a predictor of hospital readmission (Akram et al. 2020). It is possible that this trend is linked to negative experiences within hospital settings, and thus people who have been discharged might be less

inclined to engage with mental health teams if their difficulties reoccur in the community, for fear of returning to hospital. Thus it could be argued that it perpetuates problems for both patients and staff. Not only does it cause challenges in treatment outcomes, but there are also links to certain types of restraints and causing serious physical health complications, and in some circumstances, death (Sethi, Parkes, Baskind, Paterson & O'Brien, 2018).

Predictors of restraints

Several demographic factors have been shown to predict the likelihood of an individual experiencing a form of restraint. Gender has been shown to predict the likelihood of being secluded, with men more likely to experience this form of restrictive practice compared to women (Gudjonsson, Rabe-Hesketh, & Szmukler, 2004; Raboch et al. 2010). Age is also associated with different types of restrictive practices. For example, some studies have identified that younger patients are more likely to be secluded during an admission (Beghi, Peroni, Gabola, Rossetti, & Cornaggia, 2013; Cullen et al. 2018), and others found that older patients were more likely to be chemically restrained during an admission, when compared to their younger counterparts (Raboch et al. 2010).

The type of diagnosis one receives has also been identified as a risk factor. For example, in one study, patients with a diagnosis of schizophrenia were more likely to receive a form of restrictive practice, usually physical restraint, when compared to individuals who were diagnosed with anxiety, personality or mood disorders, or disorders related to drug and alcohol use (Beghi et al. 2013). Not only has diagnosis been shown to be a risk factor for restraint, but the severity of the experienced symptoms has also been shown to predict the likelihood of being restrained, with individuals who experience more severe symptoms being more at risk of being chemically restrained (Raboch et al. 2010). A study in India found that

socio-economic status was also a predictor of being chemically restrained, with people from less wealthy backgrounds being more likely to be forcibly medicated (Gowda et al. 2018).

Furthermore, ethnicity appears to potentially predict restrictive practice, with a systematic review by Beghi et al. (2013) finding that those from a minority ethnic status are more likely to be at risk of experiencing a form of restrictive practice when in an inpatient psychiatric setting. A more recent systematic review by Beames & Onwumere (2022) also suggests that there appears to be *'tentative,'* evidence for ethnicity, namely minority ethnic status, as a predictive factor for restrictive practice. It was found that some studies included showed ethnicity as being a predictor of restrictive practices, however others did not, and some found that ethnicity was perhaps a mediator for another variable that predicted restrictive practices.

When considering whether ethnicity might increase a person's chances of experiencing restrictive practice it is important to consider that a disproportionate number of people from Black and minority ethnic communities are detained in inpatient services under the Mental Health Act compared to white people (NHS Digital, 2023). Detention under the Mental Health Act is in itself a form of restrictive practice, as it means that individuals are kept in a secure environment against their own will for treatment, because they are seen as a threat to themselves or others (Department of Health, 2008). Moreover, not only are black individuals more likely to be detained, as previously discussed, but they are more likely to experience repeated detentions when compared to their white counterparts (NHS Digital, 2023). Once discharged from hospital, black people are over eight times more likely to be placed on a Community Treatment Order (CTO) when compared to their white counterparts (NHS Digital, 2023). A CTO means that once discharged into the community they are still under a level of supervision and will have certain restrictions to reduce their risk of a mental health relapse. A relapse refers to a deterioration of an individual's mental health condition.

When in inpatient services, either under a section or informally, black people are three times more likely to be on the receiving end of different types of coercive interventions, namely physical restraint and or seclusion (NHS Digital, 2019). These figures illustrate a correlation between one's ethnicity and the likelihood of experiencing restrictive practices in mental health services, however it is important to identify if this is a casual relationship. It is possible that ethnicity is moderated by the other previously discussed demographic factors such as age, gender, diagnosis symptom severity and socio-economic status.

Examining the link between being black and being restrained

The aim of this thesis is to examine and consider why there are ethnic differences in these restraint rates, more specifically, why black people are being restrained more frequently than their white counterparts. This starts with a systematic review of the literature, exploring the relationship between any ethnic groups and other demographic factors, and the likelihood of being restrained.

Following this, the thesis addresses two further research questions. The first was whether black people experiencing mental health difficulties that require inpatient treatment are viewed in a discriminatory manner, when compared to white individuals experiencing the same difficulties. This is derived from the idea that in line with research, black people in general are more likely to be portrayed in a negative light (Bennett & Plaut, 2017). This study therefore explored these attitudes within the general population. As part of this study a psychometric tool to measure baseline attitudes towards mental illness was required. Therefore prior to conducting this, and as explored in Chapter Three, the Attitudes to Mental Illness questionnaire (AMI) is critiqued.

The second research question considers whether black people are treated by staff in a more heavy-handed manner in inpatient settings because they are seen as more threatening

than white patients, when presenting with identical behaviours. This is derived from the idea that, in line with the research, in society black people are generally seen as more threatening than white people (Devine, 1989). This was explored by creating a mock ward scenario and asking ward staff to rate how anxious they were feeling and how they would respond to a patient presenting with certain threatening and non-threatening behaviours.

The findings from these chapters are examined in more detail within the discussion chapter. This chapter is also used to inform practice implications as well as to contemplate future research directions in more detail.

Chapter Two: Variations in the ethnicity of individuals who experience restraints and restrictive practice in inpatient services: a systematic review

Abstract

Background Restrictive practices such as restraints, seclusion and forced medication occur within inpatient psychiatric services. There appears to be demographic variation in the use of these practices.

Aims To establish whether there are ethnic variations in the patients who experience restraint or restrictive practice in inpatient services.

Method The systematic review was reported in line with the guidance as set out in the PRISMA guidelines (Moher, Liberati, Tetzlaff, Altman & PRISMA Group 2009). Four databases were searched (PsychINFO, Medline, Embase and CINAHL). Methodological quality was assessed using the Critical Appraisal Skills Programme Checklist for Cohort Studies (CASP Cohort Checklist) and Case Control Studies (CASP Case Control Checklist). A narrative synthesis of the findings was conducted.

Results Sixteen studies were found to meet the inclusion criteria. A variety of ethnicities were identified within the studies. These were driven by the location of the study. Seclusion (15 studies), forced medication (4) and physical restraint (4) comprised the restrictive practices. There were mixed findings, with ethnicity being shown to predict restrictive practices in some studies. Methodological quality identified certain statistical limitations of some of the papers.

Discussion The current evidence base seems to be varied. Some studies reported differences based on ethnicity and others not. It remains unclear as to whether ethnicity is a genuinely independent predictor of restraint and restrictive practices.

Implications for Practice Staff working in inpatient settings should be aware of how unconscious biases might affect clinical practice. Recruiting a more representative proportion of staff from minority ethnic groups within inpatient mental health services would be a positive step.

Keywords ethnicity, restraint, restrictive practice, seclusion, systematic review, mental health

Introduction

As identified in Chapter One, in society black people are perceived as being more threatening than white people (Correll, Urland & Ito, 2006; Greenwald, Oakes & Hoffman, 2003; Plant, Goplen & Kunstman, 2011), leading to black people being subject to disproportionate responses compared to their white counterparts (Correll, Urland & Ito, 2006; Seitz, Good & Peck, 2020). This appears to occur within inpatient services, with black people being more than three times more likely to be in receipt of restrictive practice, when compared to white people (NHS Digital, 2019).

A recently published systematic review by Beames & Onwumere (2022) that explored the risk factors associated with the use of restrictive practices in inpatient mental health settings found some evidence for ethnicity, specifically ethnic minority status, as a predictor for coercive or restrictive practices (Beames & Onwumere, 2022). This being that certain studies they included in their review reported ethnicity as being a predictor for restrictive practices, whilst others did not. The authors explored a variety of risk factors, including age, gender, ethnicity and symptom severity (as also discussed in the previous chapter). Beames & Onwumere (2022) suggested that further investigations into these specific factors would be useful in identifying definitive evidence for a causal relationship. The present systematic review aimed to explore specifically the effect of ethnicity on the likelihood of being subject to coercive or restrictive practices in inpatient mental health services. The review differed from Beames & Onwumere (2022) in the following areas:

1. Search terms were included that relate specifically to ethnicity and race, whereas Beames and Onwumere (2022) had no race or ethnic specific search terms. Race was included due to the possible conflation that might have made at times between ethnicity and race when publishing findings.

2. This review included all mental health settings, Beames and Onwumere (2022) restricted their study to focus on acute and psychiatric intensive care units (PICU) and excluded other specialist mental health settings. It was felt that this was important in order to explore whether there are trends across all mental health settings.

3. This review included all age groups, including adolescents and older adults, whereas Beames and Onwumere (2022) focused on adults between the ages of 18 and 65.

Review questions:

This review aimed to establish whether there are ethnic variations in the patients who experience restraint or restrictive practice in inpatient services. The specific question addressed was: Does being from a minority ethnic group, increase a person's chances of being subject to a form of restrictive practice when in an inpatient setting?

Method

The systematic review protocol was uploaded to FigShare, a repository for sharing research, with encouragement for users to provide feedback and suggested adaptations. The direct link is: https://doi.org/10.6084/m9.figshare.17708435.v1. The protocol was viewed 142 times, with 33 downloads. No correspondence or suggestions were made. The review was reported in line with the guidance as set out in the PRISMA guidelines (Moher, Liberati, Tetzlaff, Altman & PRISMA Group 2009). The checklist can be found in the Appendix.

Studies were included if they fulfilled the following criteria:

1. Inpatient psychiatric unit setting
2. Ethnicity included as a variable

3. Study described forms of restrictive practice, including physical, chemical or environmental restraint.
4. Cohort study design
5. In line with the United Kingdom's legislation, papers were included if they were published after 2007, the year of the most recent amendment of the Mental Health Act 1983. This was chosen as legislative law change may be driven by changing public attitudes towards mental health issues, therefore such dates are representative of key periods of change.

Studies were excluded if they did not fulfil the inclusion criteria, also if:

1. The study's setting was an emergency department or any other inpatient facility whose primary treatment was not psychiatric.
2. The study employed a qualitative design as the sole means of assessing restrictive practice as the primary aim of the review was to consider statistical differences.
3. The published paper was a form of systematic or literature review.
4. The report was part of a case report in a paper.
5. Reviews of prescription charts rather than records of actual episodes of restraint.

Search sources

The search was carried out by one reviewer, across the following databases: PsycINFO, Ovid (1806-present), MEDLINE, Ovid (1946 – present), Embase, Ovid (1974 – present) and CINAHL, EBSCO (1994 – present). Searches were run at two timepoints, the first was a full search run in December 2021. The second was an updated search run in October 2023. This was done to check for any further studies that could have been included.

Furthermore, reference lists of suitable papers were scanned to check for further suitable studies.

Search terms

The following search terms were used to identify relevant studies:

Restraint: Restraint OR restraining (restrain*) OR medication OR chemical restraint OR seclusion OR secluded (seclu*) OR segregation OR environmental restraint OR restrictive practice OR restrictive practice OR coercion OR involuntary treatment

AND

Ethnicity: Ethnicity (ethnic*) OR Race OR white OR black OR African American OR Afro Caribbean OR Asian OR mixed race OR BAME

AND

Inpatient: Inpatient OR patient or ward

AND

Psychiatric: Psych* OR mental OR mental health OR Personality disorder OR PD OR Intellectual Disability OR ID OR Learning Disability OR LD

The medical library team at the University of Nottingham verified the search strategy above. Studies were initially screened manually by title and abstract for relevance. Full texts of these studies were then accessed and screened for eligibility based on the inclusion and exclusion criteria. At this stage a reason was provided as to why the paper was either included or excluded from the study. The full screening process was carried out by one independent reviewer.

Data extraction

The following data were extracted from each study: authors, date of publication, where the study was carried out, the intervention type, and comparator (if any), duration of the intervention, methodology, whether there were significant differences between ethnicities, statistical tests used, and a summary of the main findings.

Quality assessment

The studies that meet the inclusion criteria were assessed using the Critical Appraisal Skills Programme Checklist for Cohort Studies (CASP Cohort Checklist) (Critical Appraisal Skills Programme, 2018). One study was a case-controlled design, this was measured with the Critical Appraisal Skills Programme Checklist for Case Control Studies (CASP Case Control Checklist) (Critical Appraisal Skills Programme, 2018). These tools evaluate the quality of a study, addressing three broad issues: whether the results are valid, what the results are, and based on this, whether they can be truly believed. These questions are answered by responding to eleven questions with either a yes, no, or can't tell. The tools were chosen as they are widely accepted and often used as a tool for systematic reviews. They have a wide variety of checklists and has been shown to be user-friendly (Zeng et al. 2015).

Results

A total of 10,645 references were screened for eligibility (see Figure 2.1). 1,979 duplicates were removed. 8,675 studies were screened with 8,576 studies being removed following screening of titles and abstracts. 99 studies were reviewed in full text, with 16 being eligible for the review. Reasons for studies being removed included the fact that some were systematic reviews, were qualitative in nature considering staff's views of restrictive practice, with others focused on prescription patterns. Due to the overlapping nature of some of the reasons for not including the studies, for example, a study being both a systematic

review and in relation to emergency departments, the exact number of studies excluded for each particular reason, was not included.

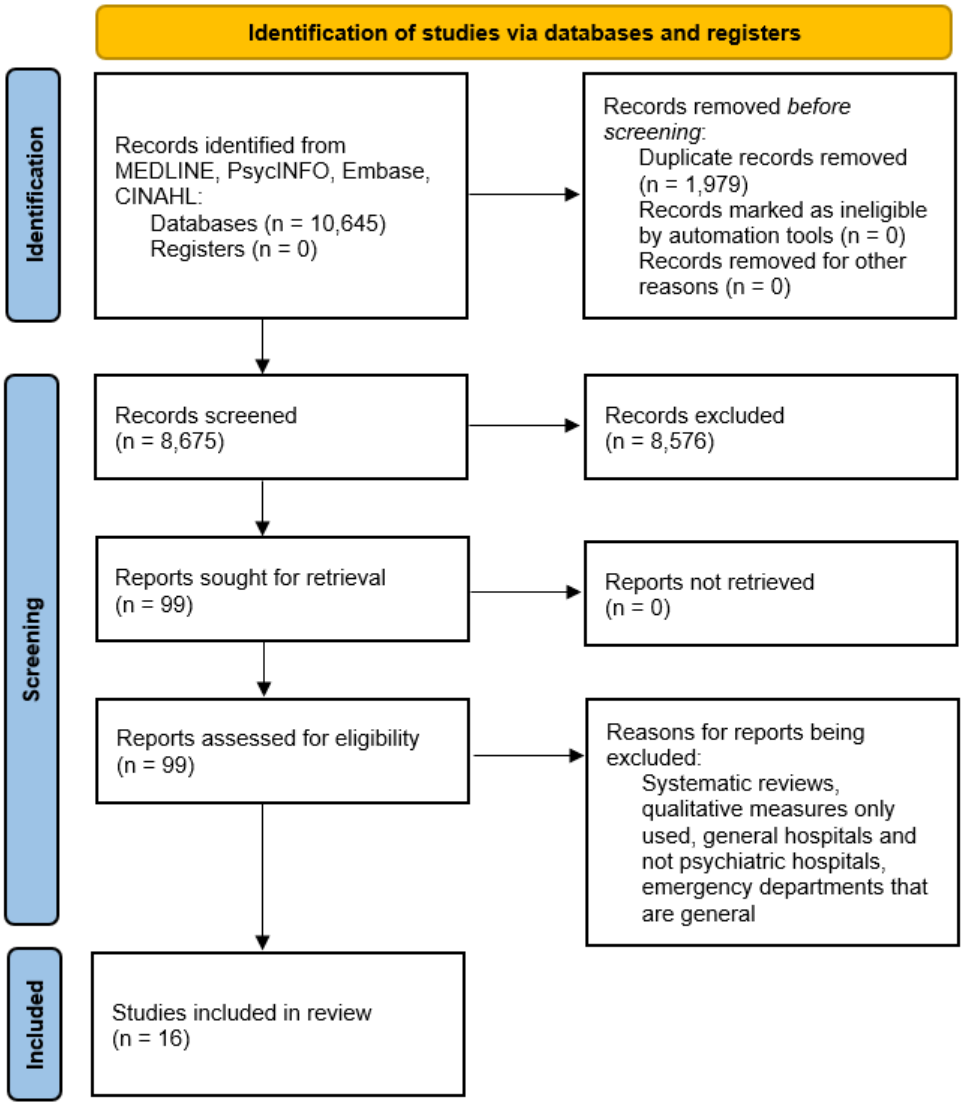

Figure 2.1: PRISMA flow diagram of the study identification process

Study characteristics

Most studies were conducted in either New Zealand (*n*=6) or the United Kingdom (UK) (*n*=5). The other studies were from the United States of America (USA) (*n*=3), Israel (*n*=1) and the Netherlands (*n*=1). The sample sizes varied from 131 to 7,342. One study had

a case control design (2), whereas the others examined individuals who had been restrained. Most of the papers were retrospective cohort studies, based on analysis of written case records, with one employing a prospective as well as retrospective cohort method (12). There was one other study that used interviews as well as exploring written records (1). All of the study characteristics and findings are summarised in Table 2.1. Each study has a number in this table, and that has been used for reference throughout this section.

Types of restrictive practices

11 out of the 16 studies focused on one specific restrictive measure, whilst others considered multiple different practices (*n*=5), as identified in Table 2.1. In total, all bar one study (13) explored seclusion, there were four that considered forced medication (1; 11; 13; 14) and four that considered physical restraint (1; 3; 9; 11). Of the four that considered physical restraint, one broke down physical restraint into two types, prone and non-prone restraints (11). Of the ones that considered forced medication, one detailed this as PRN medication (14). There was one study that considered the term restrictive practice (1).

Ethnic groups

The location of the study tended to dictate which ethnicities were explored. Studies that took place in the UK, USA and Netherlands tended to focus on comparing white, black, Asian and mixed ethnic groups (1; 2; 3; 7; 10; 11; 13; 15; 16). Studies that were carried out in New Zealand largely compared the Māori population with other New Zealand ethnicities such as Pasifika or European (4; 5; 6; 8; 12 ;14). There was one study that was conducted in Israel, here the comparison groups were defined as Ashkenazic, Sephardic, Ethiopian, Muslim and other (9).

Seclusion

Nine of the fifteen studies that explored seclusion found an effect between a minority ethnic group and majority ethnic group. Of these, four studies from New Zealand showed that Māori people were more likely to be secluded when compared to other ethnic groups (4; 8; 12; 14). However the other two studies from that country found no significant differences between the two groups (5; 6). These two studies differed from the other four that found an effect by only having Māori and non-Māori participants.

Three of the five UK studies found that being from a minority ethnic group was not a predictor of seclusion (1; 2; 10). However, the other two studies showed that being from a black Caribbean, black African, black other or mixed-race background increased the likelihood of being secluded compared to the other ethnic groups (7; 11).

Two US studies also found a similar effect, with being black increasing the likelihood of being secluded when compared to white individuals (3; 16). One of these studies also explored, but found no significant differences, in seclusion rates between being white and from another non-white ethnic group (16). In the solitary study from the Netherlands, patients from minority ethnic backgrounds were also more likely to be secluded, they did not define what comprised this group (15). The one study from Israel found no differences between seclusion rates and ethnic backgrounds (9).

Only one study did not explore seclusion episodes as part of their study design (13).

Chemical restraint

Four studies considered whether the likelihood of being from a particular ethnic group predicted chemical restraint (1; 11; 13; 14). Whilst two studies found significant differences between ethnic groups and likelihood of receiving forced medication, one, which was carried out in the UK, became non-significant when models were adjusted to consider other factors

such as age and socioeconomic status (11). The other study that found an effect was the study based in the USA, in which those from an African American background received forced medication more than other Americans, this after controlling for age, sex and admission date (13).

The other two studies that explored chemical restraint, but did not find an effect, were based in the UK and New Zealand. The study in New Zealand found that receipt of PRN medication was not related to ethnicity (14). In the study in the UK there was no association between ethnicity and the receipt of forced medication (1).

The differences in findings between the studies that found no effect (1, 14) and the others that found an effect (11,13) could be accounted for by the sample sizes and study duration. The studies that found an effect had much greater sample sizes (n > 2,350 people) and went on for longer (> 3 years) when compared to those that did not (n < 1,570 people, < 2 years).

Twelve of the studies did not appear to explore or consider forced chemical restraint as a dependent variable.

Physical restraint

Four of the studies explored the relationship between ethnicity and the likelihood of being physically restrained (1; 3; 9; 11). Of the four studies, two showed an effect (3; 11). These studies were carried out in the UK and United States. The study in the UK explored different types of physical restraint, finding that there was an effect in prone restraints. Black patients, specifically Black Caribbean patients, were more likely to be restrained in a prone position, with these effects lessening, but remaining, when controlling for other variables. This study found that there were no differences found between ethnicities when physical restraint was not in a prone position (11).

The other two studies that found no effect were carried out in the UK (1), and Israel (9). These two studies had different definitions of physical restraint, Bennewith et al. (2010) defining it as physical restraint, and Miodownik et al. (2019) defining physical restraint as mechanical restraint, the use of belts attached to a bed in a single bedded room.

Twelve of the studies did not appear to explore or perform statistical analyses on the physical restraint figures.

Coercive practice

One of the studies explored the concept of patients' experiences of coercive practice. This study was carried out in the UK and used interviews and written records to consider whether there were ethnic differences between experiences of coercive practice. They found that there was no association between ethnicity and patient perception of coercion, as well as reported patient coercion (1).

The other fifteen studies did not explore patients' experiences of restrictive practice as an outcome variable.

Table 2.1: Study characteristics and findings of the included studies

Authors (date) Country Design	Study number	Sample	Study time frame	Restrictive measures explored	Variables considered besides ethnicity	Statistical test used (*significance)	Findings
Bennewith et al. (2010) UK Mixed methods	1	1570 eligible patients, 778 consented to be interviewed 73.0% White, 17.9% Black 6.1% Asian 3.1% Mixed Ethnicity	2 years	Patient perception of coercion Use of a coercive practice Coercive practice included use of forced medication, use of physical restraint and seclusion.	Age, gender, diagnosis, mental health trust	Logistic regression	No association between ethnicity and reported patient coercion. Adjusted OR for age, gender, diagnosis and mental health trust, = 1.11 (0.62 – 2.01), p = 0.69. χ^2= 1.46, d.f. = 3, P = 0.69.
Cullen et al. (2018) UK Case control design	2	1,980 patients, 986 cases compared with 994 controls 28% White 63% Black African/Caribbean 9% Other	5 years	Seclusion	Age, gender, diagnosis type, time since admission	Mixed effects, multivariable logistic regression	No significant differences observed with regards ethnicity being a predictor for seclusion. OR = 1.13, 95% CI [0.71 – 1.79], p = 0.609
Daniels et al. (2023) United States Retrospective cohort study	3	1865 admissions of 1,327 patients. 459 restraint/secluded. No percentages given, Black or African American, Other (American Indian or Alaskan Native, Asian, multiracial, other) White	3 years	Restraint and Seclusion	Ethnicity, age, gender, length of stay	Binary logistic regression	Overall significant association of restraint and seclusion and race (χ^2_2 = 16.81, p < .001), but not ethnicity (p = 0.746). In a regression model adjusted for age, gender, and length of stay, Black or African American were at significantly more likely to be restrained and secluded compared with white patients (odds ratio = 1.66, p = .036). No significant difference in risk of restraint and seclusion between white patients and other race.
Jury et al. (2019) New Zealand Retrospective cohort study	4	7,342 individuals 33.22% Māori 5.74% Pasifika 3.72% Asian 50.93% European or other	1 year	Seclusion	HoNOS score, gender, age, number of bed nights, legal status	Univariate analysis, followed by stepwise multiple regression*	People who were secluded were more likely to be: Māori, unadjusted OR = 1.68, 95% CI [1.44, 1.95], P < 0.001,or Pasifika people, unadjusted OR = 1.89, 95% CI [1.44, 2.47], P < 0.001.
Kumar, Ng, Simpson, Fischer, Robinson (2008) New Zealand Retrospective cohort study	5	300 consecutive inpatient admissions 41.67% Māori 58.33% Non-Māori	1 year	Seclusion	Age, gender, diagnosis type, length of hospital admission, legal status, hospital readmission	Multiple linear and logistic regression to consider use of seclusion	Māori ethnicity did not have a significant association with the use of seclusion, Ethnicity [OR = 1.61 (0.86–3.01) P = 0.1] and the other variables were not found to

							be associated with use of seclusion.
Lai et al. (2019) New Zealand Retrospective cohort study	6	10,727 admission, 828 admissions with one or more seclusion episodes 31.28% Māori 68.72% Non-Māori (Worked out from data, no figures provided)	1 year	Seclusion	Age, gender, bed nights, legal status	Logistic regression, model that first considered differences in seclusion rates across different district health boards. Then incorporated demographic variables to consider whether these variations contributed to likelihood of being restrained.	Ethnicity was not shown to be a predictor of seclusion in that there were differences across health boards originally, and when ethnicity and other demographic variables were included in the model, these did not significantly alter the outcomes.
Mark, Bell, Lewis, Gleeson, & O'Brien (2022) UK Retrospective cohort study	7	139 admissions, 49 seclusions 45.6% White 36% Black or Black British 3.2% Asian or Asian British 6.4% Other ethnic groups 7.2% Mixed 1.6% Not stated	1 year	Seclusion	Age, ethnicity, employment, housing status on admission	Chis Squared tests, independent t-tests and Mann-Witney U tests	Black patients were more likely to be secluded, with 48.98% secluded during admission and 27.63% not secluded. White pateints were less likely to be secluded with 34.69% secluded during admission and 52.63% not secluded.
McLeod, King, Stanley, Lacey, Cunningham (2017) New Zealand Retrospective cohort study	8	7,239 inpatient psychiatric admissions, 782 seclusion events 26.85% Māori 73.15% Non-Māori non-Pacific	2 years	Seclusion	Age, gender, socioeconomic deprivation, diagnosis type, legal status, referral pathway	Univariate analysis, followed by regression model of seclusion event	Māori admitted as inpatients to the psychiatric unit had a 39% higher rate of seclusion, reduced to 33% when adjustment for all the sociodemographic and clinical characteristics (RR 1.33, [0.97-1.81], no P value documented.
Miodownik, Friger, Orev, Gansburg, Reis, Lerner (2019) Israel Retrospective cohort study	9	176 patients, 488 restraints and or seclusions 39.2% Ashkenazic 35.2% Sephardic 7.4% Ethiopian 10.8% Muslim 7.4% Other	1 year	Seclusion mechanical restraint, use of belts attached to a bed in a single bed room	Age, marital status, education, diagnosis type, length of hospital stay, time of event, previous hospitalizations, aggression in the past and present treatment	Univariate analysis initially, with those reaching significance, taken through to regression model.	For the ethnicity variable, in this case defined, 'Origin of the patient,' there was no coefficient given due to insignificance in the univariate analysis, p=0.488.
Pannu and Milne (2008) UK	10	433 patients, 131 secluded, 759 episodes of seclusion 73.14% White 20.99% Black	1 year	Seclusion	Gender, age, diagnosis type, seclusion time,	Chi squared analysis	Seclusion and ethnicity failed to reach statistical significance. Black patients averaged more episodes of seclusion than other

Retrospective cohort study		4.06% Asian 1.81% Other (had to calculate myself)			reason for seclusion		ethnic groups, but this was not significant. No significant difference between ethnicity and duration of the seclusion episode. χ^2= 7.1, d.f = 3, p = 0.068
Payne-Gill, Whitfield & Beck (2021) UK Retrospective cohort study	11	2,350 service users 3.2% Asian 13.8% Black African 8.8% Black Caribbean 20.8% Black other 4.0% Mixed 6.0% Not Stated 5.4% Other 37.9% White	3 years	Seclusion Prone physical restraint Physical restraint not in prone Forced Medication	Gender, age group, Index of Multiple Deprivation rank, mental health act section status, diagnosis type	Multilevel multiple logistic regression comparing ethnic group and the odds of being subject to each restrictive intervention*	Physical restraint in prone were more likely if patients were black Caribbean [OR = 1.45, 95% CI: 1.02–2.07, P = 0.040] When compared to white patients, seclusion was more likely for service users with a Black African [OR = 1.96, 95% CI: 1.36–2.83, P < 0.001], Black Caribbean [OR = 1.76, 95% CI: 1.08–2.85, P = 0.022], Black Other [OR = 1.76, 95% CI: 1.27–2.44, P = 0.001], and Mixed [OR = 1.88, 95% CI: 1.11–3.18, P = 0.019]
Swadi and Bobier (2012) New Zealand Prospective cohort study and retrospective cohort study	12	716 admissions, 328 seclusion episodes on 60 individuals 34% Māori 56% New Zealand European 10% Other	8 years	Seclusion	Age, gender, diagnosis type, length of inpatient admission	Univariate Chi squared analysis followed by multivariate logistic regression analysis*	Māori ethnicity were more likely to be secluded than patients of New Zealand European or other ethnicities (χ^2= 13.709, p < 0.01). This was still the case when controlled for factors known to be associated with ethnicity Māori were twice as likely than New Zealand European patients to be secluded (odds ratio (OR) = 2.355, 95% confidence interval (CI) = 1.084 to 5.118).
Thomas, Lane, Elkhatib, Hamilton, Pigott (2020) United States of America Retrospective cohort study	13	57,615 patients, of these, 5,138 patients included 41% White 50% African America 5% Hispanic 4% Asian 1% Native Americans	8 years	Forced medication	Age, sex, living situation, diagnosis type, substance abuse, history of abuse, length of stay, readmission rate	Chi-squared univariate analysis and a z test* Regression modelling was used to test other hypotheses	More African Americans received Forced medication than non-Hispanic white African Americans (chi square = 13.01, df = 4, p < 0.012) After controlling for age, sex, admission date African Americans were more frequently in the Forced medication group that Non-forced medication group. (*n*=1284 vs. 1192, z=2.57, P<0.05). non-Hispanic white patients were significantly less frequent in the Forced Medication Group compared to the non-forced medication group (n = 1062 vs

							1156, z = -2.65, p < 0.05). No differences in the other ethnic groups. No data provided for these.
Tyrer, Beckley, Goel, Dennis, Martin (2012) New Zealand Retrospective cohort study	14	254 patients, 30 episodes of seclusion 73.23% New Zealand Pakeha 17.32% Māori 6.30% European 3.15% Other	1 year	Seclusion Forced medication (PRN)	Gender, diagnosis type, Mental Health Act section	χ^2-tests and the Mann-Whitney *U* statistic*. As the data was not normally distributed, even after LOG transformation, regression could not be used.	Patients of Māori origin (18%) and those of continental European nationality (25%) were secluded more often than the indigenous New Zealand Pakeha (White) (5%) population ($p<0.05$). Limited data provided in the paper. Receipt of PRN medication did not relate to ethnicity. No further figures provided.
van de Sande et al. (2017) Netherlands Retrospective cohort study	15	878 patients Western Ethnic minority Percentages here are unclear as no raw numbers, just the percentages of patients secluded and not secluded along with admission dates	2 years	Seclusion	Age, gender, marital status, diagnosis type, judicial status, admission duration, Kennedy Axis V score, Brief Psychiatric Rating Scale score, Social Dysfunction and Aggression Scale score	Logistic regression model, then use of a stepwise forward entry and backward regression procedure*	Patients who were secluded were more likely to be from an ethnic minority background (OR = 1.68, 95% CI = 1.06–2.67, $\chi2$ = 4.4, d.f. = 0.1, P = 0.022). When considered combined with all the rating scales (B = 0.45 95% CI = 0.24 – 0.84, d.f = 0.012)
Vidal, Reynolds, Praglowski, Grados (2020) United States of America Retrospective cohort study	16	1986 patients 36.86% White 54.03% Black 9.11% Other	4 years	Seclusion	Age, sex, public/private insurance carrier, history of abuse, history of involvement of child protective services, prior admissions, treatment with antipsychotic medication, attempted suicide that prompted admission, self-harm history, diagnosis type	Hierarchical multivariate logistic regression model*	Being black increases likelihood of being secluded when compared to white OR (95% CI) 2.497 (1.739–3.585), when another demographic variable was included, OR (95% CI) 2.358 (1.627–3.418). None of the other ethnic groups yielded significant differences from the white group.

Methodological quality

Fifteen of the sixteen studies were measured using the CASP Cohort Checklist. Table 2.2 presents the findings of the CASP Cohort Checklist. Every study recruited the cohort in an acceptable way, accurately measured the exposure and outcomes to minimise bias by using objective data and had a follow up of subjects due to the retrospective nature of the studies. There was variability in study designs, namely what variables were considered within their statistical models. Some studies did not consider some of the important confounding factors, such as diagnosis type (5; 11). Four studies did not employ multivariate analyses which limits the ability to decipher which factor was the most important (7; 10; 13; 14). Six of the sixteen studies specifically focused on ethnicity as a primary hypothesis. Studies that did not focus on ethnicity as a primary hypothesis were mainly exploratory in nature, examining several variables that could be predictors of a restraint. Two studies examined certain assessment tools and their ability to predict restrictive practices, in one of these studies ethnicity was only examined in the context of a regression analysis (15). Of the results that were noted as can't tell, this was due to the wide confidence intervals, or the lack of multivariate analysis. For the two that were defined as no, this was due to small sample size (fewer than 50 incidents of seclusion) and the use of univariate analyses.

One study was assessed using the CASP case control checklist (2). It was felt that the study addressed a clearly focused issue and recruited both the cases and the controls in an acceptable manner, using a thorough process to consider suitable individuals for the control group. Confounding variables were accounted for within the study design.

Table 2.2: CASP Cohort Checklist for each study

	1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15	16
The study addresses a clearly focused issue	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
ethnicity was a primary hypothesis?	Yes	NA	Yes	No	Yes	No	No	Yes	No	No	Yes	No	Yes	No	No	No
The cohort was recruited in an acceptable way	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
The exposure was accurately measured	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
The outcome was accurately measured	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Have the authors identified all important confounding factors?	Yes	NA	Yes	Can't tell	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Have they taken account of the confounding factors in the design and/or analysis?	Yes	NA	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes
Was the follow up of subjects complete enough?	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the follow up of subjects long enough?	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Do you believe the results?	Can't tell	NA	Yes	Yes	Yes	Yes	No	Yes	Yes	Can't tell	Yes	Yes	Can't tell	No	Yes	Yes

*Not eligible for the CASP Cohort Checklist

Discussion

The aim of this systematic review was to consider whether the ethnicity of a patient impacts upon the likelihood of receiving restrictive practice within inpatient mental health services. Sixteen studies met the inclusion criteria and were therefore eligible for this review. Seclusion was the most reported form of restrictive practice, followed by chemical restraint then physical restraint. There was just one study that considered the umbrella term of restrictive practice. Many of the studies considered the impact of confounding variables in their statistical models. These included, but were not limited to, diagnosis types, gender, age and socioeconomic status. In some instances, ethnicity was shown to be a predictor for restrictive practices. In other instances, adjusting for other variables, ethnicity was no longer statistically significant, indicating that its effect was mediated through other sociodemographic variables. The current evidence base seems to be varied. Some studies reported differences based on ethnicity and others not. It remains unclear as to whether ethnicity is a genuinely independent predictor of restraint and restrictive practices. This therefore reinforces an idea that the administration of restrictive practices is a complex process with many variables contributing to the administration of restrictive practices, but that ethnicity could perhaps be a predictor for some people to be more at risk of experiencing restrictive practices within an inpatient psychiatric hospital setting.

Seclusion was the most frequently researched restrictive practice, and also yielded the highest proportion of studies where ethnicity was shown to be a predictor of an individual experiencing this form of restrictive practice. What is important to consider was that several of the studies that found ethnicity to be a predictor for seclusion employed univariate analyses of the data, which could limit their ability to establish causation (7; 13; 14). New Zealand had the highest number of studies that showed an effect of minority ethnic status predicting the likelihood of being restrained. Furthermore, New Zealand was the country

which had the most published studies, suggesting that perhaps there is an awareness of a relationship between ethnicity and restraint. Māori people have been shown to be more likely to experience psychiatric hospital admissions (Sachdev, 1989; Wheeler, Robinson & Robinson, 2005). It is possible that this has informed funding to ensure that experiences in these services are researched, with a view of using this to inform plans and strategies to ensure that Māori peoples' experiences are as positive as possible. This is of particular importance as research still reports that Māori people experience the public health system as being hostile and alienating (Graham & Masters-Awatere, 2020). It could be beneficial for similar strategies to be implemented in places such as the UK, where black people are more likely to experience mental health difficulties (NHS Digital, 2023). Such studies are of particular importance as poor experiences within mental health services could lead to a reluctance to re-engage in the future when in crisis, perpetuating risk of mental health worsening to the extent that this could elevate a risk to both the individual and people around them.

Statistically, individuals in the UK from a minority ethnic background are four times more likely to be subject to restrictive interventions such as being restrained in inpatient settings (NHS Digital, 2023). When considering the studies that explored physical restraint in the UK, one showed an effect, whilst one did not. The reason for these differences in findings could be attributed towards the idea that the predictor of restraints is a multifactorial process. Bennewith et al. (2010) highlight this, showing that even though there were significant differences in the number of black patients being restrained compared to other ethnic groups, this was explained by the fact that most were detained in hospitals that were perceived to be more coercive. When the model was adjusted for this, black patients were not significantly more likely to experience restraints.

However, a further explanation could have been identified by Payne-Gill, Whitfield & Beck (2021) who were the only study to examine different types of physical restraints, breaking down their physical restraint category into restraints in the prone position, and non-prone position. Depending on the position an individual was restrained in resulted in whether there were statistical ethnic differences. Black Caribbean individuals were more likely to be restrained in the prone position, but not the non-prone position, when compared to other ethnic groups. Future studies that examine physical restraints should consider delineating between different methods of physical restraint, to consider whether this leads to significant differences between ethnicities. This is of particular importance as prone restraints are more dangerous than those in non-prone, with possible risk of cardiac arrests (Steinberg, 2021). It could be argued that staff members perceive black patients as more threatening (Correll, Park, Judd & Wittenbrink, 2002), and they are therefore more likely to escalate their response and use prone restraint when working with black patients.

Of the studies that explored chemical restraint, it is possible that differences found between studies related to the definition of forced medication. For example, Tyrer et al. (2012) considered forced medication as 'pro re nata,' (PRN) given prior to a seclusion event. PRN medication is prescribed for use when required and can at times be given in a forcible manner, via intramuscular injections. However, PRN can also be given in other less imposing manners, such as orally, and at a patient's request. It has even been suggested that PRN medication is often used by patients when they are admitted to inpatient mental health services, and that most patients will use it at least once (Geffen, Sorensen, Stokes, Cameron, Roberts & Geffen, 2002). Therefore, it is possible that using the broad term of PRN might have limited the ability to understand whether medication is forcibly administered. Conversely, Thomas et al. (2020) used the term forced medication instead of PRN. It is

possible therefore that this was a reason as to why ethnic differences in the administration of forced medication were observed in this study.

Limitations

This review has focused only on studies that were carried out in inpatient settings, considering the present factors that predict restrictive practice in these settings such as diagnosis type, age and gender. All individuals who are in inpatient settings are a product of experiences in the community, and it is possible that some of these might contribute to their presentation on wards. A limitation is therefore that none of the studies, besides some that included socioeconomic status, considered experiences that an individual might have faced in the community. For example, some people might have had negative experiences with community mental health teams and thus might be more reluctant to engage with inpatient mental health services, which could be interpreted as possibly symptomatic of a mental health condition as opposed to a response to the mental health system as a whole. These experiences could therefore be used to aid an understanding as to why a patient might be presenting with a behaviour that requires a restraint.

This study did not aim to consider qualitative ways of understanding restrictive practices. One study did employ a mixed method which included interviewing patients to understand whether they had experienced a form of restrictive practice (1). This is a key limitation as a patient's experience of restrictive practice, as well as that of a staff member, would help in our understanding of this process in more detail.

Furthermore, coercion can take many different, more nuanced, and intangible forms that are not purely the types of restraint outlined in this review. Restrictive practice could include things such as persuasion and manipulation of individuals (O'Brien & Golding, 2003). It could be argued that these are hard to measure in a quantitative manner and besides

they might be practices that precipitate restraints. Again, qualitative studies may be helpful to increase our awareness of these more subtle forms of coercion and the dynamics that play out between staff and patients.

This review has only considered publications that were in the English language. It is possible that there are further studies that have not been translated into English that could supplement this review further.

There was inconsistency around the terminology that is used across the literature. For example, one study focused on two types of physical restraints, namely prone and non-prone (Payne-Gill, Whitfield & Beck, 2021). Others more broadly stated physical restraint, finding non-statistically differences between the groups (Bennewith et al. 2010). It is possible that the differences in findings could be attributed to the differences in the reporting of the restraint types. Greater consistency in future studies would help to increase the ability to take a more confident view about the role ethnicity plays in the administration of restrictive practices. This might be difficult especially when there are different types of restrictive practices that are carried out, which are often driven by guidance derived from specific healthcare systems, often varying from country to country. Governing bodies could discuss ways of addressing the incongruence in reporting, ensuring that there is consistency at least within the context of data that is recorded in the same country, through guidance that is disseminated within their healthcare systems.

Recommendations

Whilst ethnicity is important to consider, other sociodemographic variables including age, gender, socioeconomic status, and diagnosis type have all been shown to predict restrictive practices. Mental health services would benefit from providing staff with training

to make them aware of the role demographic variables play in predicting the likelihood of being restrained.

This review has shown how, at least in some circumstances, ethnicity can be a predictor of increased risk of experiencing restrictive practices. Staff working in inpatient settings should therefore be aware of how their unconscious biases might affect clinical practice. Furthermore, individuals from minority ethnic groups should be represented more frequently in inpatient settings. One of the recommendations from Swadi & Bobier (2012) could be generalised to all mental health settings. They suggested that, as a means of reducing risky behaviours and de-escalating certain situations in ward settings, more people from minority ethnic backgrounds could be present in mental health settings. This could involve more staff being employed from minority ethnic backgrounds to help educate staff members' understandings of different cultures. They also suggest that working alongside family members could help staff teams to consider the cultural significance of certain aspects of patients' lives, at least in some circumstances.

A final consideration would be for future studies to be more nuanced in their descriptions of restraints. For example, detailing how physical restraints are performed, and the ways in which medication has been administered. Studies that report these details appear to identify differences that are not found by those using more general descriptions of restraint. This in turn would help to ensure a more comprehensive view could be developed with regards the experiences that patients from a minority ethnic group experience when admitted to inpatient psychiatric units.

Conclusions

Restrictive practice is used across different mental health systems, and this has affected how research has been conducted. There are mixed findings in the literature but

some studies, especially those that have used more detailed analysis of types of restraints, have shown differences in the practice of restrictive practice between ethnic groups of patients. Greater consistency in future studies would help to increase the ability to take a more confident view about the role ethnicity plays in the administration of restrictive practices.

Why these differences occur could be examined in more detail. Future studies could explore mental health staff's attitudes towards mental health patients from different ethnic groups. Such a study is described in Chapter Four. Exploration in this area might help to explain whether there is unconscious bias, and in turn, could help to consider whether and how this might affect the use of restrictive practices. Prior to this, Chapter Three is used to critique the suitability of a measure that was considered suitable for Chapter Four.

Chapter Three: A critique of the Attitudes to Mental Illness Questionnaire (AMI)

Abstract

Background Understanding public attitudes towards mental illness is needed to ensure society provides safe and effective mental health care. The AMI is 27-item questionnaire that has often been used by the government to assess the public's attitudes. Such a measure was required for the study in Chapter Four.

Aims To establish whether the AMI is a suitable baseline measure of an individual's attitudes towards mental illness.

Method The psychometric is critiqued by considering the scientific properties, reliability, and validity of the measure. This was done by examining the measure alongside psychometric theory, as well as exploring the available published literature that has examined the validity of the measure.

Results The test length appears appropriate. The measure provides reliable responses. Factor analyses concluded that there are several factors that can be derived from the measure.

Discussion The AMI appears to be a well validated and widely used psychometric tool. It has been adapted and used across different countries and over large periods of time. There are some queries about the number of factors that would be appropriate.

Keywords AMI, reliability, validity, psychometric critique

Introduction

Understanding the public's attitudes towards mental illness is important for a variety of reasons. Prejudiced attitudes towards mental illness in society leads to a reduction in help-seeking behaviour when people experience mental illness (Eisenberg, Downs, Golberstein, & Zivin, 2009). Not seeking help can in turn enable experiences of mental illness to escalate, which might ultimately lead to an increased risk for both the individual, people around them, and the wider public. There is also a link between societal mental health stigma and increased rates of suicide (Schomerus et al. 2015). It is important to also consider how different societies might view mental illness, as attitudes towards mental illness in society are closely linked to the priority of financial provision for mental health services, with more stigmatized societies allocating less financial investment in mental health services (Knapp et al., 2006). Furthermore, when devising a questionnaire, it is possible that the way questions and statements are worded, are sensitive to the wider society's perception (stigmatising or progressive) of mental illness. These findings suggest that it is important to be able to accurately capture the public's attitudes towards mental illness, whilst also considering the importance of the society's overall attitudes when trying to asses this.

The AMI was considered to potentially be a suitable baseline measure of an individual's attitudes towards mental illness. This type of measure was required for the study in Chapter Four. This chapter critiques and assess the suitability of the AMI. Also, to note, the AMI is abbreviated as such because Chapter Four uses another measure, named the Attitudes to Mental Illness Questionnaire (AMIQ) (Luty, Fekadu, Umoh & Gallagher, 2006).

The AMI is a 27-item questionnaire that was developed by the UK Department of Health (2014). It is largely derived from the earlier 40-item Community Attitudes towards the Mentally Ill (CAMI) survey (Taylor & Dear, 1981), with one further item included that

relates to mental illness and employment. It has been adapted several times by the Department of Health since its first revision in 1994, in order to ensure a maintenance of contemporary language (Mehta, Kassam, Leese, Butler, & Thornicroft, 2009). However the core questions have remained the same (Time to Change, 2015). The questions cover a wide range of issues that may contribute to an individual's attitude towards mental illness, usually creating four factors (Time to Change, 2015), and as discussed in the next section.

The AMI vs the CAMI

The AMI is an adapted version of the CAMI, with the CAMI being a 40-item questionnaire used to measure community attitudes towards mental illness that was developed in 1981 (Taylor and Dear, 1981). The AMI contains 26 items derived from the CAMI, adding in one further item that relates to employment, 'People with mental health problems should have the same rights to a job as anyone else.' The items that were not included tended to focus on neighbourhood related feelings and attitudes, as well as how much control should be placed on people who experience mental illness. The AMI has also adapted the terminology in some of the items to reflect the evolution of less stigmatizing language. The CAMI originally referred to individuals experiencing mental health problems as being 'mentally ill,' with the AMI instead adapting to this to refer to this group as, 'people with mental illness.' This has been shown to be important in ensuring that as a population we consider individuals as not defined by their diagnosis, as this in turn helps to reduce stigma that can be shown towards individuals who experience mental health issues (American Psychological Association, 2019).

The subscales on the AMI and CAMI differ. The CAMI has 10 items for each of the following 4 subscales: authoritarianism, benevolence, social restrictiveness and community mental health ideology (Taylor & Dear, 1981; Time to Change, 2015). The AMI also creates

four subscales but they are quite different and do not use the same items as the CAMI for these: fear and exclusion of people with mental illness; understanding and tolerance of people with mental illness; integrating people with mental illness into the community; and causes of mental illness and the need for special services (Time to Change, 2015). The number of items that load onto each subscale differ, ranging from 3 to 9 items. There has been some debate as to the most appropriate number of factors for the 27 items, and this will be explored further in the validity section of this psychometric critique.

This review examines the psychometric properties of the AMI. This shall be done by first considering the scientific properties of the AMI. Following this, exploration of the reliability and the validity of the AMI will be discussed. Finally, considerations about its suitability for the current research will be explored.

Scientific properties

Characteristics of a good psychometric measure

According to Kline (2016), in order for a psychological test to be described as 'good,' it should be at least on an interval scale, possess reliability, validity and have relevant normative data (Kline, 2016). This section will discuss these concepts, considering whether the AMI can be interpreted as a 'good,' psychometric measure.

Level of measurement

Kline (2016) states that ideally a psychological test should produce a ratio scale, meaning there is a 'meaningful zero point.' When measuring psychological constructs such as an individual's attitude towards a topic, it is not possible to have 'no attitude' towards something, and therefore it is impossible to have a true zero point. Kline (2016) accepts that where ratio scales cannot be employed, then a measure may employ an interval scale to

enable statistical analysis of the results. The items of the AMI are each recorded on a five-point Likert scale, allowing production of interval data and suggesting that this measure creates an adequate amount of data to be seen as a 'good' psychometric measure.

The AMI employs a five-point Likert scale with response options from 'strongly agree' to 'strongly disagree', with a neutral response of 'neither agree nor disagree.' (UK Department of Health, 2014). This means that although each item on the scale is an ordinal level of measurement (responses are on a ranked scale), when responses are aggregated, an attitude score can be derived, meaning that the data can then be interpreted as interval (Allen & Seaman, 2007).

The use of a neutral response in this Likert scale also helps to reduce the risk of a response bias by allowing individuals, who might not have an opinion on a statement, to provide a response that reflects this (Randall & Fernandez, 1991). Moreover, a neutral response has been seen as more favourable than an 'unsure' category, with Kline (2000) warning that, when interpreting responses, high neutral responses might result in falsely inflated scores.

Test length

Kline (2015) reported that tests as short as ten items are able to provide reliable results, adding that increasing the length of a test increases its reliability. However, having a test that is too long increases the chances of participant attrition and nonresponses (Porter, Whitcomb & Weitzer, 2004). Moreover, those participants who do complete lengthier tests might contribute poorer data quality as they might become fatigued, bored or distracted (Kasunic, 2005). The AMI contains 27 items and is unlikely to take longer than 10 minutes to complete. According to Kline (2015), this is a 'good' test length, stating that any

psychometric over 10 items long can be deemed ‘good,’ as it ensures that the responses can be seen as reliable.

Reliability

Reliability refers to the ability to reproduce consistent results over a course of time and in a variety of circumstances and settings (Kline, 2016; Terwee et al. 2007). As outlined in the previous section, there are some aspects of reliability, such as the test length, to which the AMI conforms. Reliability is an essential component of a psychometric measurement and Kline (2016) suggests that it is a prerequisite of validity. Reliability can ensure that an observed difference in scores is a result of changes in the individual, as opposed to a random error (Kline, 2016). When considering how to measure reliability, Nunnally (1978) suggested a sample of 300 participants as a minimum for reliability studies. However, Kline (2016) and Guilford (1956) have illustrated that a minimum sample size of 200 participants is sufficient for a reliability study. Although current practice tends to rely on power calculations that are made according to individual questions and statistical tests, rather than blanket rules.

The AMI has been repeatedly carried out with members of the general population. Between 2011 and 2014, 8,635 people took part in national surveys in the United Kingdom which used the AMI along with other measures (UK Department of Health, 2014).

Overall, it appears that based on the available research with the general population, the AMI possesses acceptable reliability. This section will further explain why this conclusion has been drawn by considering the internal consistency of the measure.

Internal consistency

Internal consistency refers to the extent to which the items in a measure assess the same characteristic (Fink, 2010). In the case of the AMI, it refers to the extent to which all the

items measure attitudes. Fink (2010) adds that internal consistency tends to be measured based on the correlations between the different items, assuming all carry equal weight.

Taber (2018) suggest that Cronbach's alpha is the most commonly used test to measure this. Although it is not strictly correlational, Taber (2018) states that Cronbach's alpha provides a measure of equivalence, explaining that this approach divides a measure into two groups and compares the results. Considering the number of ways the 27 items of the AMI can be split, Cronbach's alpha would be a suitable tool to measure internal consistency. Cronbach's alpha compares all of the ways in which a test can be split and provides a mean score of this, the alpha value. The greater the Cronbach's alpha value, the more comparable the results and therefore, the higher the internal consistency. Taber (2018) suggest that a Cronbach's alpha value above 0.70 is often reported in papers as being an indicator that a measure is reliable and has high internal consistency.

Three studies have examined the internal consistency of the AMI, using Cronbach's alpha to measure this. Evans-Lacko, Henderson & Thornicroft (2010) reported strong internal consistency (Cronbach's $\alpha = 0.87$) among a sample size of 6,963 participants who completed the AMI. A further study by Hazell, Koc, O'Brien, Fielding-Smith, & Hayward (2021) also reported strong internal consistency among their sample (Cronbach's $\alpha = 0.87$) of 2579 participants. Moreover, Winkler et al. (2016) found strong internal consistency (Cronbach's $\alpha = 0.84$) in their sample of 3,010 participants, of which 1,200 were specifically doctors. It is possible that doctors might have less stigmatized views towards mental health difficulties when compared to people in the general population due to ordinarily having to work with this client group as part of their training. However, due to the brief nature of rotation placements (6 months), it is possible that, if these placements elicit negative experiences, these individuals could in fact hold more stigmatised views towards individuals who experience mental health difficulties. It is unclear in which direction this might occur, but it is important

to perhaps consider this when thinking about this sample. More generally speaking, these findings show that the AMI possess strong internal consistency, indicating that the AMI is a reliable measure.

Inter-rater and test-retest reliability

There do not appear to be any inter-rater and test-retest reliability studies of the AMI. Because the test focuses on attitudes, and there is an element of subjectivity towards the level of attitudes one might show, an inter-rater reliability study might prove inconclusive. Furthermore, as attitudes can change and evolve, a test-retest reliability study might prove unhelpful as a reliability measure.

Validity

The validity of a test is an essential component that any psychometric measure should possess and should be explored once a test is seen as reliable (Kline, 2015). Validity relates to whether a test actually measures what it claims to measure (Kline, 2015). In the instance of the AMI, it is presumed to measure attitudes towards mental illness. Validity is an umbrella term that considers several concepts that can be measured to ensure a psychometric tool is seen as being valid (Kline, 2015). These concepts include an initial consideration of face validity, followed by more in-depth analyses that consider the notions of construct (convergent and discriminant), criterion (concurrent and predictive) and content validity. This section will explore specifically whether the AMI possesses face validity, concurrent validity and construct validity.

Face validity

According to Kline (2015), face validity is a process by which one examines whether a test appears to measure what it states it is measuring. Kline (2015) stated that it has no

relation to true validity and that the importance of face validity is in relation to ensuring participants co-operate with the test. Hardesty & Bearden (2004) add that face validity is a prerequisite for further validity tests such as construct validity. Therefore, for any measure to be considered valid, it must possess face validity. It seems that there is no objective measure of face validity, merely a subjective judgment of whether the items appear appropriate. On this basis, the AMI appears to possess face validity as it provides questions and statements that relate to differing attitudes towards mental illness. Furthermore, each subscale appears to possess strong face validity, with the respective items appearing to measure what the subscale states it is recording.

Concurrent validity

Concurrent validity considers whether the test predicts performance on a similar test or measure (Fink, 2010; Kline, 2015). Studies have explored how scores on the AMI predict different types of behaviours that would be befitting of an individual with positive attitudes towards mental illness, with Rüsch, Evans-Lacko, Henderson, Flach, & Thornicroft (2011) finding that higher (more positive) AMI scores predict people scoring higher on the Mental Health Knowledge Schedule (MAKS). The Mental Health Knowledge Schedule is a short, well-validated 12-item instrument, that assess and tracks stigma-related mental health knowledge (Evans-Lacko et al. 2010). High scores on the MAKS imply that individuals do not possess stigmatizing or discriminatory views towards individuals who experience mental illness. In the same study, Rüsch et al. (2011) found that higher scores on the AMI also predicted individuals as being more likely to seek help if they experienced mental health illness, and or to disclose their condition to a family member or friend.

A study by the same group identified that first-hand experience of mental health problems – either experiencing mental health problems themselves or a close family

member/friend – was predictive of higher AMI scores (Evans-Lacko, Henderson & Thornicroft, 2013).

Furthermore, owing to the fact that the AMI has used and adapted items from the CAMI, it can be assumed that the AMI possesses strong concurrent validity with this earlier and longer measure.

Construct validity

Construct validity considers whether a test measures what it purports to measure, and therefore, whether it can discriminate between people who do and do not have specific characteristics (Fink, 2010). In the case of the AMI, this means does it capture the differing attitudes towards mental illness that occur within a population? The construct validity of the AMI appears to be the most widely researched aspect of the psychometric measure.

Kline (2015) states that construct validity embraces all of the approaches to validity and is a powerful method for demonstrating the validity of tests. Kline (2015) argues that because of this, it is the most important aspect of validity. To measure construct validity, Kline (2000) recommends that a factor analysis be used to consider how many subscales there might be, and how much each subscale contributes to the overall score. This is done to ensure all items in the psychometric measure contribute to the outcome. Having items that do not contribute to the overall score means that the test is longer than is necessary and this can impact the participant's focus as well as increase the likelihood of non-completion of the test (Kasunic, 2005).

Kline (2000) suggests that a process of exploratory factor analysis is the most commonly used approach to examine groups of items and identify any redundancies. Exploratory factor analysis is used to explore the variables that might be present within a measure (Kline, 2000), and is often used when there is little to no knowledge about the

relationship among the variables (Brown, 2015). The Department of Health (2008) carried out an exploratory factor analysis of the AMI, finding that all statements loaded with a level of at least 0.43 on one of the four factors. As 0.3 is usually taken as the minimum level to load onto a factor (Field, 2013), all statements in this study loaded onto at least one factor. However, the Department of Health (2008) found that only 45% of the variance was explained by four factors, which raises concern as Streiner (1994) states that the total variance explained by the factors should be at least 50%. However, Tinsley and Tinsley (1987) suggest that often the total variance is usually below this 50% threshold, and that this does not necessarily mean concerns should be raised. They add that if the total variance explained is between 30 and 40% then this should be cause for concern, but variance above 40% is acceptable.

Subsequently, Rüsch, Evans-Lacko, Henderson, Flach, & Thornicroft (2011) carried out a two-step factor analysis process of AMI scores. Their first step was an exploratory factor analysis of several different types of factor solutions. This included two, three and a four-factor solution. They found that the three and four-factor solutions had poor internal consistency (Cronbach's α<0.60). However, the two-factor model, with 14 items loaded onto factor 1, prejudice and exclusion, and 13 items loaded onto factor 2, tolerance and support for community care, yielded positive results. Rüsch et al. (2011) found that both subscales were negatively correlated (r=-0.51), meaning that they would both seemingly measure different meaningful concepts. However, they only accounted for a cumulative variance of 32.4%, which, according to Tinsley and Tinsley (1987) would be a cause for concern.

Rüsch et al. (2011) conducted a confirmatory factor analysis, this is a type of factor analysis that can be used to test an already derived hypothesis about variables (Kline, 2000). In this instance, Rüsch et al. (2011) used this on the two-factor model with data used from a sample of participants who had completed the AMI at a different timepoint. The authors

found that both factors were again negatively correlated (r=-0.56), evaluating the factors with a root of mean square error of approximation statistic (RMSEA). RMSEA is a frequently used measure in structural equation modelling (Kelley & Lai, 2011). It works by considering the parameter estimates fit based on the covariance matrix of a given population (Hooper, Coughlan & Mullen, 2008). Hu & Bentler (1999) suggest a cut-off value of below 0.06 as an indication that the model has been satisfied. Rüsch et al. (2011) found that the RMSEA was below this 0.06 value (RMSEA=0.059, 90% confidence interval = 0.057-0.061), and therefore argued that the two-factor model would be the most appropriate for the AMI.

However, a further study, albeit using a 26-item version of the AMI, has queried the validity of both the two- and four-factor models. Using a confirmatory factor analysis among a sample size of 3,006 participants, Yuan et al. (2016) suggested that both models created poor fits, although their level of RMSEA appeared to be stricter, with the 4-factor model value (RMSEA=0.056) below the 0.06 cut off that Rüsch et al. (2011) employed. Moreover, a further difference between the two studies was the sample population, with Yuan et al. (2016) carrying out the AMI in Singapore, compared to Rüsch et al. (2011) whose population was based in the United Kingdom. It is possible that several culturally specific concepts and factors impacted the models. This is apparent as when Yuan et al. (2016) removed several items that loaded lowly, it resulted in a 20-item 4-factor structure being the most appropriately fitting model (RMSEA=0.024).

It appears that the AMI has several ways of interpreting the 27-item model. Whilst the four-factor model has often been used, there are queries as to whether a two-factor model is a better fit. Ultimately there appears to be evidence that support both ways of interpreting the measure and therefore it would appear that there is merit in considering both options.

Appropriateness of the AMI for Chapter Four

The AMI has been used in many different contexts, but primarily it has been used with adult (18+) individuals from the general population on numerous occasions by the Department of Health (Time to Change, 2015). This suggests it is a suitable measure for Chapter Four, whose inclusion criterion is individuals over 18 years of age from the general population. As the AMI has been designed to be given to individuals in the general population, the terminology used appears to be easy to understand for a lay person (Time to Change, 2015).

The AMI in Chapter Four was to be used as a baseline understanding to explore if there were differences between groups in general attitudes that people might hold towards individuals with mental illness. This has also been the primary use of the measure, to explore trends and attitudes within populations over periods of time (Rüsch et al. 2011; Time to Change, 2015).

Furthermore, the AMI was to be used in conjunction with other shorter measures such as The Attitudes To Mental Illness Questionnaire, experiences of mental health questions and a demographic questionnaire. The use of the AMI alongside other measures is important to consider as the longer the battery of assessments that a participant is required to complete, the more likely participants will become fatigued, bored or distracted (Kasunic, 2005). In other studies the AMI has been used alongside similar measures. The Department of Health employed demographic and experiences of mental health questions in their research (Evans-Lacko, Henderson, & Thornicroft, 2013; Time to Change, 2015). These studies all suggest that the AMI is an appropriate measure to use alongside other psychometric tests and questionnaires and does not significantly affect participant attrition.

As identified, the AMI appears to be a well validated and widely used psychometric tool. The adaptations and use of the AMI in Singapore and the United Kingdom, over large periods of time, further illustrate the quality of the psychometric measure. Despite this, as identified, there are some conflicting suggestions as to the optimum factor structure of the AMI. However, for Chapter Four, it was felt that the United Kingdom version of the AMI was an appropriate tool to employ.

Chapter Four: Understanding public attitudes towards people with mental health problems from different ethnic groups

Abstract

Background Attitudes towards people experiencing mental health problems differ, this can be affected by the age or gender of the individual experiencing the problem, or more specifically, the diagnosis itself. There seems to be a lack of research examining whether there are differences between ethnic people experiencing the same mental health illness.

Aims To consider whether there are differences in attitudes shown towards black, white, and people from a mixed ethnic background, who have a diagnosis of schizophrenia.

Method A Jisc online survey, with 300 participants, who were presented with a vignette of either a fictitious black, white or mixed ethnic group patient. The Attitudes to Mental Illness Questionnaire (AMIQ) was used to assess attitudes held towards this patient. Baseline measures were sought to control for possible confounding variables, these included, experiences of mental illness, general attitudes to mental illness and demographic variables (age, gender, ethnicity, work within a mental health setting).

Results Chi squared tests and ANOVAs were used to establish that there were no significant group differences on the confounding variables. The white patient group (WPG) participants responded in a more positive manner (M=3.04, SD = 5.21) when compared to the black patient group (BPG) (M=2.61, SD = 5.26), and control patient group (CPG) (M = 2.68, SD = 5.07), but an ANOVA found that these differences were not statistically significant (F (2, 297) = 1.21, p=0.30). Chi-squared tests were used to analyse the individual responses to the AMIQ items. A trend was found of WPG being seen as more favourable in almost all of the statements, albeit not to a statistically significant level.

Discussion Considerations are made about these subtle differences between the groups and how this may impact patient experiences within the mental health system. The links between such unconscious biases, restraint rates and ethnicity are considered.

Keywords Ethnicity, attitudes, mental illness, schizophrenia

Introduction

Black people are more likely to experience certain mental health difficulties such as psychosis, when compared to white people (Rethink Mental Illness, 2021). Moreover, during the COVID-19 pandemic, black men experienced a higher average increase in mental distress when compared to their white British counterparts (Proto & Quintana-Domeque, 2021). There are disproportionately larger numbers of black people detained in psychiatric services, and more specifically, in secure services (MIND, 2019). As identified in the introduction and the subsequent systematic review, even within in these settings, statistics indicate that black patients can be more likely to be restrained when compared to their white counterparts (MIND, 2019).

Why might this be occurring? One hypothesis is that black people who experience mental health problems are viewed in a more negative light when compared to white people experiencing the same problems. Research has explored how people presenting with different diagnoses are perceived in a different manner (Rao, Mahadevappa, Pillay, Sessay, Abraham, & Luty, 2009), with those experiencing schizophrenia being seen in a more discriminatory way. Furthermore, studies have explored how the gender of a patient experiencing mental health problems might impact how they are viewed, with women who experienced mental health problems being rejected by the public less than men (Holzinger, Floris, Schomerus, Carta & Angermeyer, 2012). However, research has not appeared to explore whether the ethnicity of an individual experiencing mental health difficulties might affect attitudes

towards the person. Might society view black people experiencing mental health problems in a discriminatory manner when compared to white people who have identical diagnoses, and could this therefore be why they are then treated in a negative manner?

As identified in Chapter One, research has shown that black people in general are more likely to be portrayed in a negative light (Bennett & Plaut, 2017). This has seemingly been maintained over generations via media influences (Kulaszewicz, 2015). It is possible that these negative views might extend to the way people with mental health difficulties are perceived and thus treated in society. This is an important consideration to make as if people are viewed in a negative light, this could explain the discrepancies in the way that they are treated. This forms the main hypothesis of this research: individuals will have more negative attitudes towards black people experiencing mental illness when compared to white people presenting with the same illness.

Considering confounding variables

It is important to consider other factors that might interfere with one's perception of mental illness. Research has indicated that both age and gender affect attitudes towards mental illness, with older individuals holding less stigmatized views than younger people, and women holding more open-minded and less stigmatized views than men (Gibbons, Thorsteinsson & Loi, 2015; Ewalds-Kvist, Högberg, & Lützén, 2013).

Furthermore, people's experiences of mental illness could affect how they view mental illness, with familiarity being a predictor of attitudes towards people experiencing mental illness (Aromaa, Tolvanen, Tuulari & Wahlbeck, 2011). Moreover, the more experiences people have with individuals with mental health diagnoses, the less stigmatized their views (Aromaa et al., 2011).

As highlighted previously, the type of mental illness could also be a factor in determining how individuals are perceived. Research has indicated that diagnoses that are perceived to be high on personal responsibility for causing the illness (for example drug-induced schizophrenia), associated with risk, and are less common (such as schizophrenia and personality disorders), are seen in a more stigmatised way when compared to other diagnoses that are not as high in the same three domains, such as post-traumatic stress disorder and depression (Feldman & Crandall, 2007).

Whilst this study is considering the ethnicity of the patient and how this might affect how they are viewed, the ethnicities of individuals viewing mental health patients might also affect how they perceive mental illness. Shefer, Rose, Nellums, Thornicroft, Henderson & Evans-Lacko (2013) have found that individuals from ethnic minority communities tend to have more stigmatized views towards mental illness and that this impacts whether and how individuals access treatment. They suggest that this is due to the religious or traditional beliefs related to these backgrounds being less accepting of mental illness, and as a result, can create barriers to accessing treatment. As the study described in this chapter was open to a global audience, it was therefore important to know where the participants were from since in certain countries, mental illness is still perhaps seen in a stigmatised manner when compared to the United Kingdom. Moreover, even within the United Kingdom, being aware of certain ethnic backgrounds could affect how an individual perceives mental illness.

Research hypothesis:

Individuals will hold more negative attitudes towards a black person with a diagnosis of schizophrenia when compared to a white person presenting with the same illness.

Methods

Participants

There were 1,005 clicks to the study. 19 people dropped out at the consent form stage and 89 at various other stages of the study. 302 participants completed the study; however 2 filed incomplete data, therefore 300 responses were analysed. Power calculations suggested that to achieve 95% power, 207 participants were required. Participants were recruited via social media, as described in more detail in the procedures section. Every participant declared that they were either 18 years old or over. The study was a between-subjects design with participants being allocated to consider a vignette from a white, black, or mixed ethnic (control) background patient group.

Measures and scenarios

1. **Demographic questionnaire**

   This questionnaire invited participants to provide their background information. This included their age, ethnicity, gender, whether they had worked in a mental health setting and whether they currently worked in a mental health setting.

2. **Fictitious patient vignettes**

   Participants were randomly presented with one of three vignettes of fictitious patients, either a white man, a black man, or a woman from a mixed ethnic group. The white and black males were described in an identical manner, looked a similar age and had a similar facial size, with the only difference being their ethnicities. This was done to control for other variables that might impact attitudes towards people with mental health problems such as the age, height, size and diagnosis types, and to therefore ensure that the differences that might be seen between the groups were attributable predominantly to the ethnicity of the individual. The

woman from a mixed ethnic group had a similar description, with the only difference being the pronouns used. The inclusion of this face was to consider what differences there might be when the gender and ethnic group was entirely different to the two male faces, but with the other factors remaining the same. This was also used to consider the direction of future research. Each participant was only presented with one of the patients.

3. **Attitude to Mental Illness Questionnaire (AMIQ)**

   The AMIQ is a 5-item questionnaire that was presented to individuals following each vignette about a real or imagined patient. Individuals answer five questions that relate to this patient, with responses to each question on a 5-point Likert scale. The questionnaire has good psychometric properties showing good stability, test-retest reliability, alternative test reliability, face, construct and criterion validity (Luty, Fekadu, Umoh & Gallagher, 2006)

4. **Experiences of mental health questions**

   These five questions were introduced specifically for this study as a means to assess whether each participant had personally experienced mental health problems, or had been closely exposed to individuals who experienced mental health difficulties. This was done as experiences of mental health services might impact one's attitudes towards mental illness.

5. **Attitudes to Mental Illness (AMI)**

   As mentioned in Chapter Three, the AMI was considered suitable for measuring baseline attitudes towards mental illness in this study. The AMI is a 27-item questionnaire that was developed by the UK Department of Health, adapted from the 40-item Community Attitudes toward the Mentally Ill Scale (Taylor & Dear,

1981). Individuals are presented with statements that they respond to on a 5-point Likert scale, with response options ranging from '1 = strongly agree' to '5 = strongly disagree'.

Procedure

Ethics approval was granted by the University of Nottingham Faculty of Medicine & Health Sciences ethics committee (reference no. FMHS 458-0222). Key ethical considerations were met by ensuring information remained confidential and anonymous, that responses were anonymous, and that participants were provided with a robust debrief form were they in need of further support.

Step 1 – Recruitment, introduction and consent

Recruitment took place via social media between 10/04/2022 and 31/08/2022. Adverts were posted on social media sites including Reddit, LinkedIn, Facebook, Twitter and other social media forums. The advert contained a link to complete the questionnaire. Once the link was clicked the questionnaire presented participants with an introductory page with the participant information sheet (Appendix 4). This was followed by a consent form (Appendix 5). The most successful platform for recruitment was Reddit, it is possible that the nature of the snowball effect of a successful Reddit post, with more engagements meaning more prominent placements on the forum, led to this being the most successful advert point.

Step 2 – Demographic data

Participants were asked to fill out the demographic questionnaire.

Step 3 – Patient vignettes and AMIQ

Participants were presented with a case vignette of a fictitious patient. Next to this was a photo of the fictitious patient (Appendix 6). They were then asked to complete the AMIQ whilst considering the patient.

Step 4 – Mental health experiences and AMI

Participants were asked to respond to the five questions that relate to their personal experiences of mental health (Appendix 7). Following this they were presented with the AMI. This was used to ensure there were no differences in general attitudes towards mental health between each of the groups.

Step 5 – Debrief form and follow-up support

On completion of the study participants received a debrief form that outlines what the hypothesis of the study was and the potential implications of the research (Appendix 8). Participants were also provided with information for support if they felt they required it.

Data analysis

Data was downloaded from the online survey tool into Microsoft Excel where a spreadsheet was created. It was password protected. Any incomplete responses were removed from the data sheet. Adaptations were made to the spreadsheet to code for various responses. The countries people were from were combined to fall under one of four categories: Great Britain and Ireland; USA and Canada; Europe; and Rest of the World. Individuals' ethnicities were combined to fall under one of six categories: Black; White; Asian; Mixed Ethnic Group; Other; and Prefer Not to Say. Gender responses were grouped to women, men and other. Each individual was also assigned the group that they were allocated to: Black patient group (BPG); White patient group (WPG); Control patient group (CPG).

An AMI total score was calculated by adding the individual item scores together for each participant. Tests of normality were carried out on the AMI scores for each group. As the number of participants in each group was greater than 50, Mishra et al. (2019) state that the Kolmogorov-Smirnov test for normality be employed, however, the Shapiro-Wilk was carried out simultaneously. The initial tests indicated that the data was not normally distributed in two of the three groups, with the BPG being the only group that was normally distributed on both the Kolmogorov-Smirnov (d=0.083, p = 0.058), and Shapiro-Wilk (W = 0.99, p = 0.44). Following this, the data was transformed using Log10, this showed that the data was normally distributed for the AMI scores using the Shapiro-Wilk test for normality, however this was not the case for the Kolmogorov-Smirnov test. Visual inspection of the histograms for the data for the three groups was carried out. This indicated that the log-transformed data seemed to be parametric.

Results

Comparing the group demographic variables

To consider the suitability for univariate analysis over the need for multivariate analysis, the potential confounder variables were compared. The comparisons were made between the three independent groups that participants were randomly allocated to, the black patient group (BPG), white patient group (WPG) and woman control patient group (CPG). These variables included the age, ethnicity type, gender, country, experiences of mental health and AMI scores. Table 4.1 summarises the distributions of the demographic variables across the three groups.

Table 4.1: Demographic characteristics of respondents for each of the three groups

	BPG	WPG	CPG
Number of respondents	111	96	93
Age (years)			
Mean (SD)	30.1 (11.0)	32.7 (15.0)	35.6 (17.1)
range	18-81	18-76	18-81
Sex (n/(%))			
Female	67 (60.4)	50 (52.1)	51 (54.8)
Male	34 (30.6)	34 (35.4)	32 (34.4)
Other	10 (9.0)	12 (12.5)	10 (10.8)
Ethnicity (n/(%))			
White – any type	89 (80.2)	81 (84.4)	79 (84.9)
Mixed– any type	5 (4.5)	7 (7.3)	5 (5.4)
Other	12 (10.8)	6 (6.3)	7 (7.5)
Prefer not to say	5 (4.5)	2 (2.1)	2 (2.2)
Country/region of respondents (n/(%))			
Great Britain/Ireland	27 (24.3)	29 (30.2)	34 (36.6)
USA/Canada	54 (48.6)	43 (44.8)	30 (32.3)
Europe	15 (13.5)	19 (19.8)	20 (21.5)
Rest of world	15 (13.5)	5 (5.2)	9 (9.7)

The age of the participants did differ between the three groups, with the BPG (M = 30.14, S.D = 10.99) the youngest, WPG (M= 32.68, S.D = 15.04) the second youngest, and CPG (M = 35.36, S.D = 17.19) the oldest. The age data was not normally distributed, therefore a Kruskal-Wallis test was administered instead of an ANOVA, to test if these differences were significant. The Kruskal-Wallis test indicated that despite these difference, they were not significant (H (2) = 2.37, p = 0.31).

The ethnicity comparisons between the two groups are shown in table 4.1. The group variance seemed similar, although the vast majority of participants were from a white background. The other category was created due to the small numbers from a variety of ethnic groups, it was made up of those from black ethnic groups, Asian ethnic groups and

those that chose to identify their ethnicity as other. A Chi squared test was carried out to consider whether there were any significant differences between the groups, this found that there were no significant differences $\chi^2(6, N = 300) = 3.62$, $p = 0.73$.

The gender of participants appeared to differ slightly, as shown in table 4.1. The other category was created due to the small numbers from those that identified as transgender, non-binary or other. A Chi squared analysis was carried out, which found that these differences were not significant $\chi^2(4, N = 300) = 1.65$, $p = 0.80$.

The regions of the world were considered. Table 4.1 illustrates the various regions that individuals were from based on the group they were randomly allocated to. The Rest of the World category was created due to the small numbers from a variety of nations, and included Australia, New Zealand, South America, Asia, Africa and Russia. A Chi squared analysis was carried out, which found that despite there being differences between the groups, these were not significant $\chi^2(6, N = 300) = 11.67$, $p = 0.07$.

Mental health experiences and AMI

Chi squared tests were carried out to consider group differences in their responses to the five experiences of mental health questions. Each response yielded non-significant differences, suggesting that there were no differences between the groups in relation to their experiences of personally having mental health problems, living with an individual with mental health problems, working with an individual with mental health problems, having a neighbour experience mental health problems, and having a close friend with mental health problems.

Means and standard deviations of the AMI scores are shown in table 4.2. With the data appearing to follow a normal distribution, a parametric test was used to consider the differences between the three groups on the AMI score. A one-way ANOVA was used to

consider if there were differences between the three groups on both the original AMI data, and the Log10 transformed AMI data. The ANOVA for the original AMI data was not significant at F (2, 297) = 2.25, p=0.11. Furthermore, the ANOVA for the Log10 transformed AMI data was also not significant F (2, 297) = 2.27, *p*=0.11.

Table 4.2 Mean AMI scores, with standard deviations, for each group

	Mean (SD)
BPG	84.77 (5.26)
WPG	83.27 (5.21)
CPG	83.75 (5.07)
Total	83.98 (5.21)

Due to the lack of significant differences between the groups across the possible confounding variables, these group differences were not accounted for in the modelling process. Further univariate analyses were carried out to consider if there were relationships between these and the attitudes towards the fictitious patients.

AMIQ analysis

The mean AMIQ score across the whole population was 2.77 (2.08), *n*=300. The AMIQ responses were then analysed in two ways. The first was via a general calculation of the AMIQ scores, with an analysis of variance being conducted. The second was using a Chi squared analysis for each response type for each of the five statements to consider whether the group that the participants were allocated to affected the likelihood of providing a certain response type.

AMIQ ANOVA testing

The mean AMIQ scores of all the groups are shown in table 4.3 below. The WPG score was greater than both the BPG and CPG, indicating that participants in the WPG

responded in a more positive manner when compared to the other two groups. However, despite these differences, the results were not statistically significant F (2, 297) = 1.21, p=0.30.

Table 4.3: Mean AMIQ scores, with standard deviations, for each group

Group	Mean (SD)
BPG	2.61 (5.26)
WPG	3.04 (5.21)
CPG	2.68 (5.07)
Total	2.77 (2.08)

AMIQ Chi squared analyses

As shown in Figure 4.1, when asked whether they felt that the individual's career would have been impacted, there were similar scores for each group across all three of the response types. The analysis indicated that there were no significant differences between the groups, $\chi 2$ (4, N = 300) = 0.75, p = 0.95.

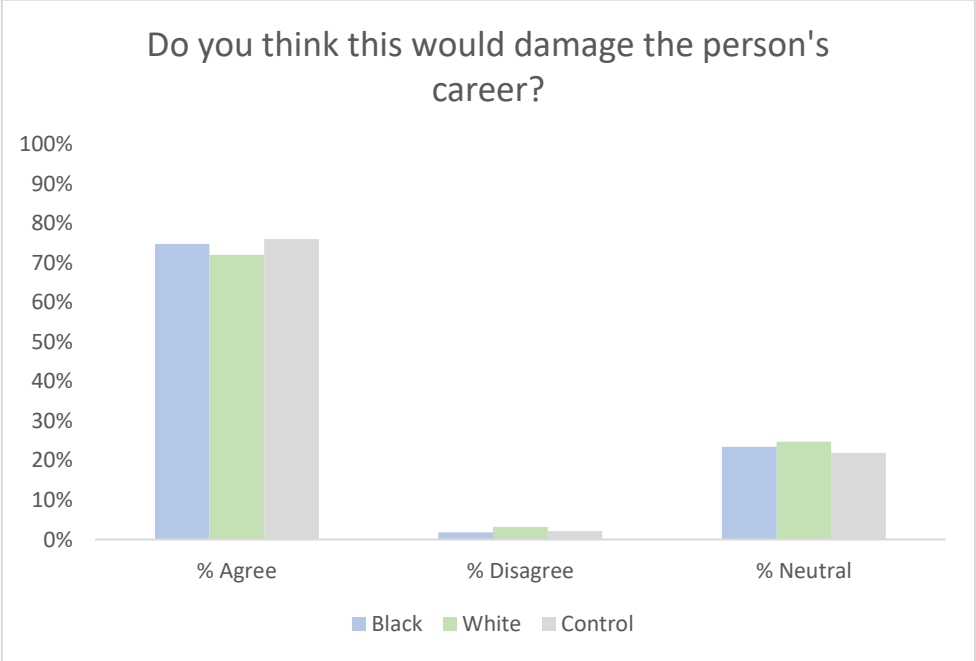

Figure 4.1: Responses to the statement, do you think this would damage the person's career?

When participants were asked whether they would be comfortable working with the patient, no one from the WPG disagreed with the statement, whereas there were some

disagreements for the BPG and CPG, as illustrated in figure 4.2. Despite some differences, the Chi squared results were non-significant, χ^2 (4, N = 300) = 4.13, p = 0.39.

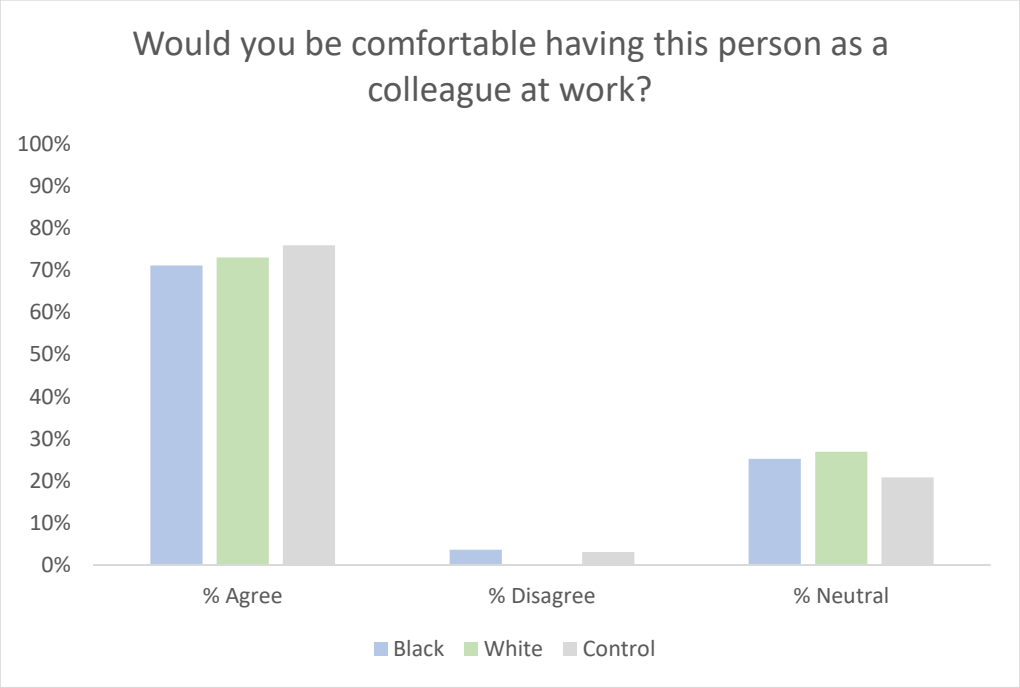

Figure 4.2: Responses to the statement, would you be comfortable having this person as a colleague at work?

In response to the statement, would you feel comfortable inviting the person over to dinner, participants in the WPG agreed with this statement more than the other two groups. The CPG had the lowest percentage of agreement, and the highest neutral response scores, as shown in figure 4.3. Again, despite there being some differences, the Chi squared results were non-significant, χ^2 (4, N = 300) = 6.27, p = 0.18.

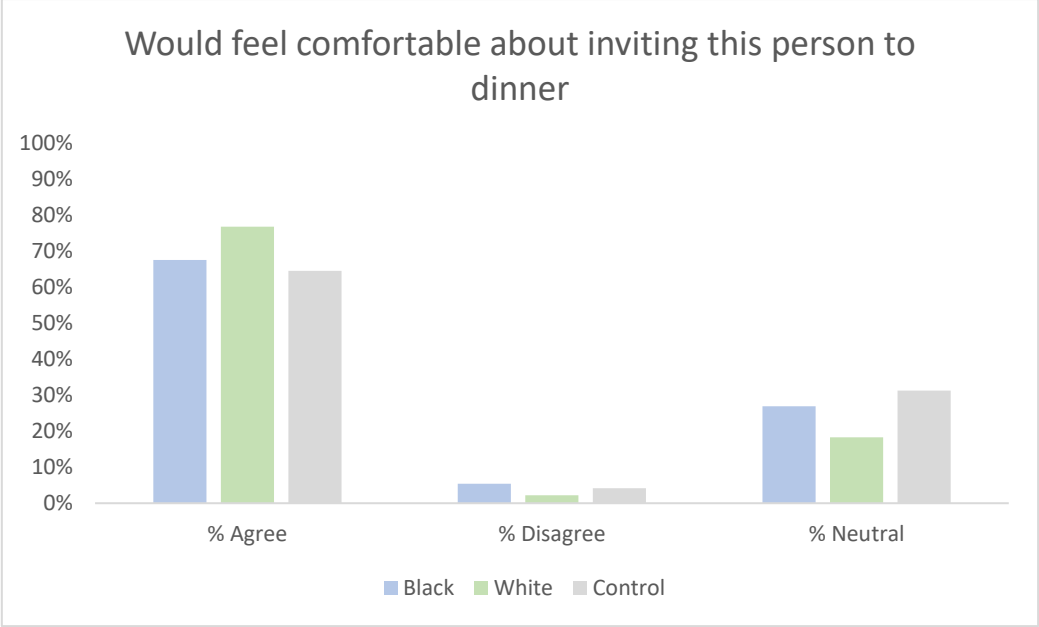

Figure 4.3: Responses to the statement, would you feel comfortable about inviting this person to dinner?

The final two statements related to likelihood as opposed to agreement. When participants were asked whether they felt it would be likely that the patient's partner would leave them, those in the WPG outscored those in the other two groups, as shown in figure 4.4. Despite some differences, the Chi squared results were non-significant, χ^2 (4, N = 300) = 3.53, p = 0.47.

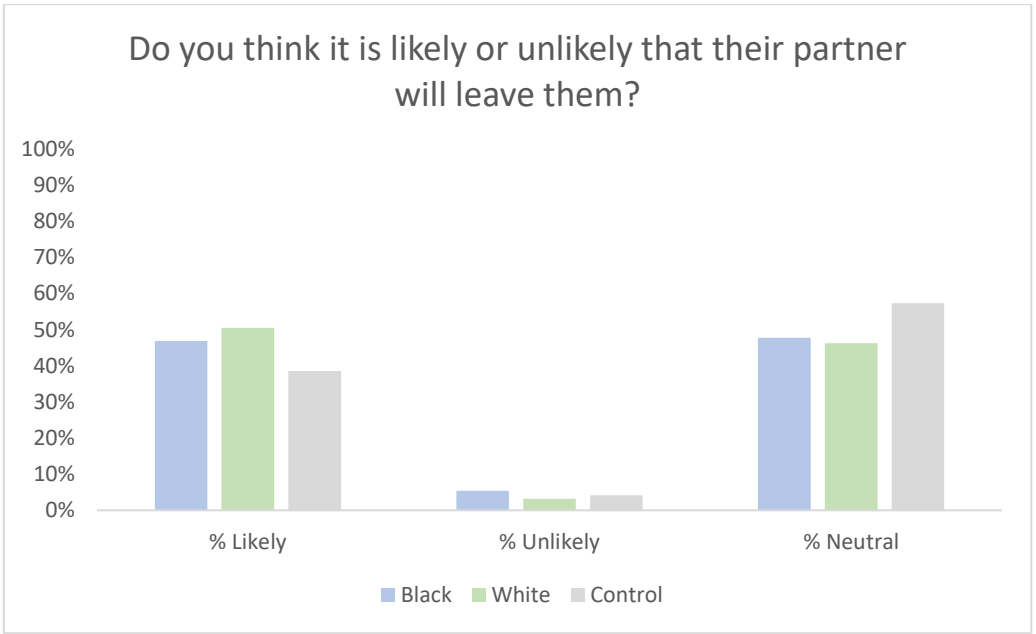

Figure 4.4: Responses to the statement, do you think it is likely or unlikely that this person's partner will leave them?

In response to the statement, do you think this person will get in trouble with the law, over 15% more responses in the BPG were classed as likely when compared to the WPG. The CPG likely response fell roughly between the two scores, being 6.9% greater than the WPG, but almost 10% less than the BPG. The neutral responses occurred more frequently, as illustrated in figure 4.5.

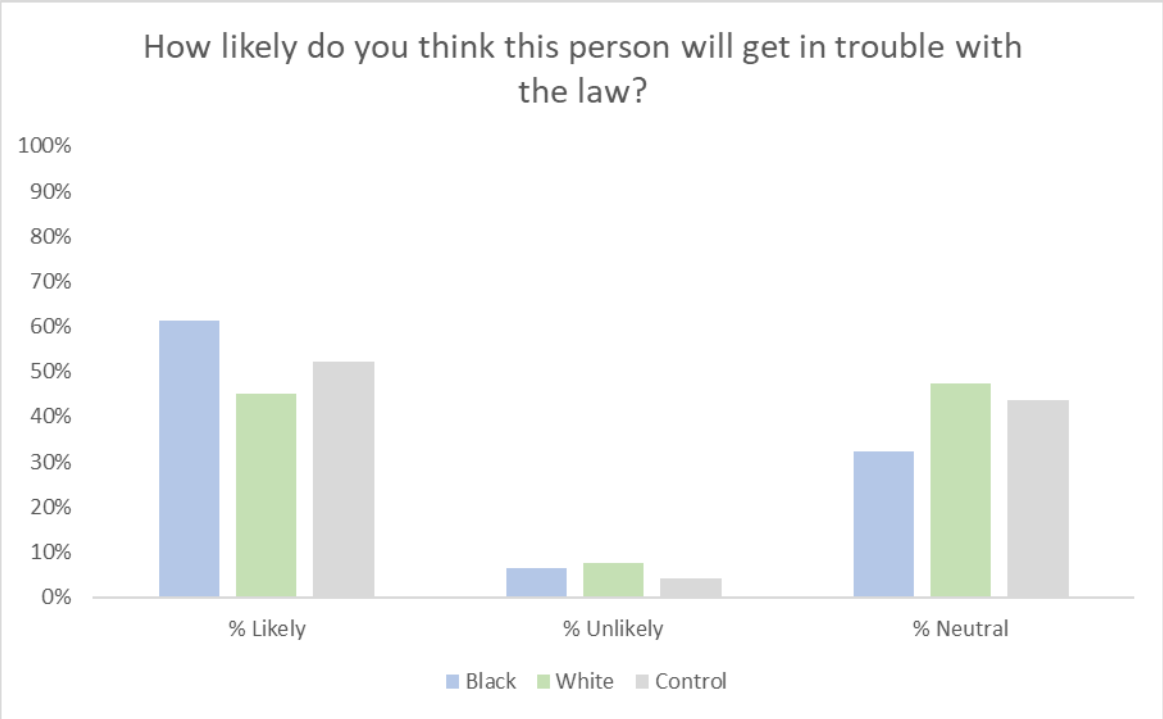

Figure 4.5: Responses to the statement, how likely do you think this person will get in trouble with the law?

Despite there being some noticeable differences, the Chi squared results were non-significant, χ^2 (4, N = 300) = 6.50, p = 0.17. Due to the noticeable differences between the BPG and WPG for this statement, a further Chi squared analysis was carried out comparing the response likelihoods between these two groups, this again did not yield a statistically significant result χ^2 (2, N = 204) = 5.40, p = 0.07.

Discussion

While it is generally recommended to avoid detailed discussion of non-significant data it is also important that p values should not always take precedence over the results

themselves (Carver, 1993). In the present study there appeared to be a trend in the average AMIQ scores, which were lower in the BPG compared to the WPG, albeit not in a statistically significant manner. Respondents in the BPG viewed their patient in a more negative light when compared to the WPG. Moreover, the CPG group also viewed their patient in a more negative light when compared to the WPG, but not to the same level as the BPG. Therefore, there is some evidence to support the research hypothesis that individuals will have more negative attitudes toward a black person experiencing schizophrenia when compared to a white person presenting with the same illness. This being despite baseline average attitudes towards mental illness being (if anything) more positive in the BPG compared to the other two groups, again with this not being to a statistically significant level.

Furthermore, comparing the individual responses in the AMIQ also highlighted that this trend was consistent across almost all of the statements. The only one where the WPG performed in a less positive manner was on the item that the person's partner will leave them, which is discussed further below.

The statement that yielded the greatest difference between the groups was one that centred on thinking that the patient is likely to get in trouble with the law. As highlighted in the introduction, black people are seen as more threatening than white people (Correll, Urland & Ito, 2006; Greenwald, Oakes & Hoffman, 2003; Plant, Goplen & Kunstman, 2011). It is possible that the observed difference in this statement was aligned with these findings. Furthermore, it could further reinforce the idea that black people experiencing mental health difficulties are seen as more likely to be violent, something that has previously been evidenced (Peffley & Hurtitz, 2002).

If black patients are being viewed as more likely to get in trouble with the law, it is possible to consider the implications this might therefore have in both community and

inpatient settings. Certain behaviours could be viewed as riskier if carried out by a black patient, compared to a white patient. This could impact upon decisions that are made by clinicians. Statistics indicate that this trend is already occurring, with black people being over four times more likely to be detained under the Mental Health Act when compared to white individuals (NHS Digital, 2023). Chapter Five will examine what then happens in inpatient settings, and whether this increased perception of risk is also present and how this impacts on treatment.

The only statement that seemed to have respondents view the BPG in a more positive light related to whether participants felt their partner would leave them. However, this statement and finding is a rather complex relationship to consider as it is both conceivable that more positive statements on this item are a sign of either a positive or negative view of the individual. The idea being that on the one hand, leaving a person could indicate that the partner feels superior to the patient, and therefore staying with the person might not necessarily be suggestive of someone having a partner who is sympathetic or supportive, more that it is reflective of someone having low expectations. However, on the other hand, thinking that someone might stay with a partner could also be representative that this person elicits a caring and supportive partner.

It is possible that the lack of statistically significant differences indicates that the differences that are occurring happen on an unconscious level. These biases may therefore be difficult to detect using statistical methods or may perhaps be so subtle that they may require a larger sample to demonstrate clearly. This could be counteracted by ensuring that future research uses a larger sample size with a wider range of demographic variables. Alternatively, it could be managed by employing qualitative approaches to assessing individual attitudes. A qualitative approach could enrich the data and help develop understanding of the differences that have been observed in this study.

It could also be noted, as identified in chapter 3, that the AMI seems an appropriate measure to use alongside other measures. This was observed in the context of the number of participants who completed the study, with a sample size of 300 individuals, it did not appear to be that participant attrition was a factor when completing the survey. The time taken to complete the survey was detailed to be between 10 and 20 minutes, therefore it could be argued that the AMI would be suitable for a study that is a similar length.

Limitations

There were several limitations in this study. The first was that most survey participants were white. The lack of ethnic diversity in this sample means that it is hard to generalise the findings of this study to society. An improvement would be to ensure more representation from other ethnic groups, in particular black participants, as this could help to develop an understanding about whether there is a further ingroup-outgroup effect.

A further consideration about the sample was how inclusive it was. There was representation from a wide variety of nations, which in turn could be influenced by other biases such as educational levels, therefore it was hard to make assertions about specific cultural trends. Future studies could restrict the inclusion and exclusion criteria to ensure only people from a specific country can take part. Moreover, individuals were recruited from online forums, and therefore might be excluding those that do not spend time in these spaces, who could represent a notable proportion of the population.

Moreover, ideally the design of the study would have been within subjects, as there is an element of subjectivity when completing Likert scales, especially in the context of attitudes. However, it was considered about the impact that this might have had on the study, were participants to have identified the objectives of the study part way through, as this would have increased the risk of individuals providing socially desirable answers.

The sample size of the study (n=300) was well above the minimum number of 207 required for 95% power using chi squared tests with four degrees of freedom. However, further increasing of the sample size could enhance the study's statistical power.

The study employed one face to represent each group. This is a limitation as whilst every attempt was made to make the faces similar in nature, the differences that were observed between the groups could be attributed to individual facial features as opposed to the ethnicity of the patient. Using a variety of photos of faces within each ethnic group could be a way of developing the study further and mitigating this potential limitation. Further to this, considerations about employing a wider variety of ethnic groups could again help us to consider how different ethnic groups might be perceived.

Having a wider variety of diagnosis types could also help develop and enrich our understanding of the role that this plays in the variety of ethnic patients. It would be interesting to consider whether there are differing or similar trends between the diagnosis type and various ethnicities.

A further reflection on a potential limitation of the study was the way gender was presented to the participants in the demographic forms that people filled in to partake in the study. Following feedback that was received, primarily from people on Reddit, it was considered that future research might benefit from having free text space for gender identity due to the array of genders that there are. The research did employ a box that was defined as, 'other,' with free text optional at this point, but it was said that this might be experienced as discriminatory towards individuals who do not align with the male or female genders.

Moreover, the use of Reddit as a key source of recruitment should also be stated. Users of Reddit tend to be younger people and more likely, men, and as such might not be representative of the general population.

Conclusion

There seemed to be a trend, albeit not to the level of statistical significance, of black patients being viewed in a less favourable light, when compared to both white patients and a control condition of a woman experiencing mental heath problems from a mixed-ethnic background. Of particular note were the differences in views towards whether black patients are more likely to encounter problems with the law. It is possible that such biases could play out in inpatient settings and could therefore explain why at times, as evidenced in the systematic review, black people are more likely to be restrained when compared to white counterparts. Chapter Five will further explore how staff view the behaviour of black and white patients in inpatient settings, and whether their responses differ based on the ethnicity of the patient.

Chapter Five: Exploring the differences in responses to threatening behaviours between black and white patients

Abstract

Background Restraint is used to contain and manage threatening behaviour in inpatient mental health settings. More black people are restrained than white people. One theory that could explain this difference is that, as in society, black people are seen as more threatening than white people.

Aims To determine if staff find the behaviour of a black patient more threatening than a white patient.

Method Participants were presented with either a fictitious black or white patient. They were then presented with three scenarios of differing threat levels. After each scenario they were presented with an anxiety measure (STAIS-6) and provided with a choice of eleven threat responses, being instructed to tick all that applied for them. Baseline anxiety scores and demographic variables were recorded.

Results Chi squared and t-tests were used to establish that there were no significant group differences on the confounding variables. Chi squared tests were employed to compare the groups in their response patterns to each scenario. The BPG elicited a greater proportion of threat responses and restraint types when compared to the WPG. However, despite this trend, only one comparison reached statistical significance.

Discussion Considerations are made about the observed trend, and how this could be explained by unconscious ethnic bias. The impact of such unconscious bias on patient experiences within inpatient settings is considered. Qualitative methodology could be employed in a similar study to further examine this hypothesis.

Keywords Ethnicity, restraint, threat, mental illness, schizophrenia

Introduction

As identified in Chapter One, threat perception is a multifaceted domain and there are many components that inform how individuals perceive threat from other people. This study aims to consider the impact of ethnicity specifically in inpatient settings, by exploring threat perception in inpatient psychiatric settings and what role, if any, that ethnicity plays in this. This is an important area to consider as it might be that, as in society and other policing and caring roles, unconscious biases lead staff to feel more threatened by behaviours of black patients because of their ethnicity. They may therefore be more heavy-handed in their approach towards black patients, and this could be one explanation as to why, as shown in Chapter two, in certain instances black patients are more likely to be restrained, when compared to white patients. This could lead to multiple challenges for services and service users resulting in:

1. Longer hospital stays for black patients when compared to white counterparts.
2. Retriggering of traumatic experiences of power imbalances from authority figures which could lead to escalation of behaviour.
3. Resentment from black service users towards staff and services leading to disengagement and a challenging therapeutic environment.
4. Disengagement might lead to a reluctance to identify and treat potential mental health difficulties in the future.
5. Poorer outcomes for services with large numbers of black patients, meaning fewer referrals and less funding.

There appears to be little research in this area despite the significant differences in restraint figures over the decades, and the impact such a trend would have. However, one component of a study explored the effect ethnicity might have on staff responses towards behavioural misdemeanour within inpatient psychiatric settings. In this research Crichton

(1997) found that ethnicity had no significance on the degree of perceived threat that staff felt when presented with certain scenarios. However, the study was limited as it compared two behaviours. Of these two behaviours one involved a service user assaulting a staff member and the other had the service user press a fire alarm. These scenarios are extreme behaviours – one very threatening and the other not - therefore responses appear obvious and ethnicity might not have as much of an impact. This study planned to supplement this research by increasing the number of behaviour types by increasing the number of scenarios.

The research in this chapter therefore addresses the following questions:
Will staff find a black patient's behaviour more threatening than that of a white patient?
Will staff react to a black patient's behaviour in a more heavy-handed manner when compared to a white patient displaying the same behaviour?
Will being black increase the likelihood of being restrained in some form?

The hypothesis is that being black will lead to behaviours being seen as more threatening than if a white person presents with the same behaviour. Furthermore, it will likely elicit more heavy-handed responses from staff members and therefore they will be more likely to be restrained in some form.

Method

Participants:

The inclusion criterion for the study were clinical members of staff at all levels who either currently worked or had recently (past year) worked in inpatient psychiatric settings. The importance of recent was to ensure those that had perhaps changed career paths some time prior, were not eligible for the study, as policy and processes might have changed since they worked within these settings. Participants were recruited via social media and invited to

share the survey link with other possibly eligible participants. The study was a between-subjects design with participants randomly allocated to one of two groups, either the black patient group (BPG) or white patient group (WPG).

Measures and stimuli

Several questionnaires and stimuli were presented to participants. These are outlined below and are presented in the order that they were given to the participants.

1. Demographic questionnaire: This questionnaire asked participants their age, ethnicity, gender, years and months worked in mental health, years and months worked in current role, current job role, current work setting and settings previously worked in.

2. Six-Item State Anxiety Scale (STAIS-6): State anxiety is a response that individuals tend to experience when they feel under threat of being harmed (Spielberger, 2010). This 6-item questionnaire was used to measure feelings of state anxiety by asking individuals to respond to statements on a 4-point Likert scale, rating their response from 'not at all,' to 'very much so' (Marteau & Bekker, 1992). Three of the six statements are negatively scored and higher scores equate to higher levels of state anxiety. Considering that participants completed the measure multiple times it was important that it could be completed quickly to reduce participation attrition whilst at the same time ensuring that it did not compromise on accuracy. Research has illustrated that the 6-item version is highly correlated to the full version and takes significantly less time to complete (Tluczek, Henriques, & Brown, 2009).

3. The fictitious patients: The two patients were described in the same manner with the exception being their ethnicity. Participants were also presented with a

picture of a face that was representative of the fictious patient they were allocated to. This was done in order to increase the internal consistency by controlling for variables that might impact the perception of risk such as gender, diagnosis, height, weight, body type and prior history of violence. The images were closely matched to ensure that they were of individuals of a similar age and with similar facial features e.g. hair, facial hair and facial expressions.

4. The fictitious setting: a picture of the setting where the fictitious scenarios were taking place was used to help participants visualise being in the situation, in turn increasing the external validity of the study. The setting was the same for both groups to reduce the potential for this to be a confounding variable.

5. The fictitious scenarios: Participants were presented with three fictitious scenarios. These were on a scale from a fairly unthreatening situation, a patient raising their voice and complaining, to a significantly threatening situation, a patient running towards the participant with clenched fists making verbal threats. Scenarios were presented to participants in order from least to most threatening. As stipulated by Flaskerud (1979), in order to increase internal validity, the vignettes that were used followed a three-step process. The content was derived from previous literature, then piloted by presenting them to several psychiatric professionals to ensure that they truly represent scenarios that could occur on a psychiatric ward, and finally they were piloted with further professionals to ensure that there were no errors.

6. **Response statements**: As responses to threatening situations can vary considerably, participants were provided with eleven different response options that they could have considered using. Participants were instructed that they could use any response. The responses included, a ‘freeze’ response, the two responses for

this were doing nothing and standing still. A ‘flight’ response, the options that made up this category were either walking or running away. A low level ‘fight’ response, this involved intervening in the situation in a manner that did not involve restraint, the responses that made up this category were calling for help, pulling an alarm, verbal de-escalation or offering PRN. A ‘fight’ response, these related to a form of restraint whether this be physical restraint, forcible chemical restrain or seclusion.

Procedure

The study was granted ethical approval by the University of Nottingham Faculty of Medicine & Health Sciences ethics committee (reference no. FMHS 314-0721). Key ethical considerations were met by ensuring information remained confidential and anonymous, that responses were anonymous, and that participants were provided with a robust debrief form were they in need of further support.

People were recruited via adverts that were posted on LinkedIn, Facebook and Twitter between 07/05/2021 and 10/04/2022. The advert contained a link to complete the questionnaire. Once the link was clicked the questionnaire presented participants with an introductory page with the summary of the study (Appendix 9), as well as a consent form (Appendix 10). Participants were asked to fill out the demographic questionnaire.

Individuals were presented with the Six-Item State Anxiety Scale (STAIS-6) (Marteau & Bekker, 1992). This was done to get a baseline score, ensuring that there were no group differences in general state anxiety, which would in turn affect their anxiety scores.

Participants were randomly allocated into one of two groups, the group they were in determined the patient description they received. Participants were blind to the grouping and existence of the other group. Those in the BPG were allocated information and a photo about

a fictitious black patient (Appendix 11). Those in WPG were allocated information and a photo about a fictitious white patient (Appendix 11).

The participants were presented with a photo of the fictitious ward alongside the patient. This information was the same for both groups (Appendix 12). A description of the three scenarios (Appendix 13) that they fictitiously encountered with this patient was presented below these images and presented to the participants one by one. Following each description participants were presented with the STAIS-6 and the response statements.

On completion of the study participants received a debrief form that outlined the hypotheses of the study and the implications of the research (Appendix 14). Participants were also provided with information for support if they felt they required it. This was important as individuals might have found the scenarios presented and questions asked triggering of negative memories or traumatic past events.

Coding the data

Data was downloaded from the online survey tool into Microsoft Excel where a spreadsheet was created. Any incomplete responses were removed from the data sheet. Certain data was recoded for various responses. The first of this recoding was rounding the years worked in a mental health setting up or down to the nearest whole year. The job roles were grouped by disciplines, this involved combining unqualified and qualified professionals. For individuals who worked in multiple settings, the most secure setting was recorded. For those individuals who were not currently working in an inpatient setting, again the most secure setting they had worked in previously, was chosen. Individual's ethnicities were combined to fall under one of four categories, black ethnic group, white ethnic group, Asian group as a whole and people with a mixed ethnic group.

Data was transferred to SPSS, version 28, and this was used to analyse the data. Scores on the STAI-6 were calculated as per the instructions for scoring. A score was

therefore formed for each participant at the four levels of testing namely, baseline, at scenario 1, scenario 2, and scenario 3.

A more complex coding was performed on the responses to each scenario. Each response was allocated to one of four categories which broadly represented a type of response that might befit an individual who is faced with a threat, namely fight, flight, or freeze. Type 1 related to not responding at all to the situation, a 'freeze' response, the two responses for this were doing nothing and standing still. Type 2 was a 'flight' response, the options that made up this category were either walking or running away. Type 3 were low level 'fight' responses, these involved intervening in the situation in a manner that did not involve restraint, the responses that made up this category were calling for help, pulling an alarm, verbal de-escalation or offering PRN. Type 4 responses were 'fight' responses, these related to a form of restraint whether this be physical restraint, forcible chemical restraint or seclusion.

If a participant chose one or more of the responses in the category, this would result in a score of 'yes' or 1. If they did not state that they would respond with any of them, then this would score 'no' or 0. The results therefore provided a binary outcome. This approach was taken as some participants might have felt that certain responses might not need to be carried out, for example, if a participant suggested that they were to forcibly chemically restrain an individual, they might assume that physical restraint would be part of that process, and therefore not have ticked that box. In order to further test and assess the hypotheses, each restraint response was also kept and comparisons were made between the groups, as shown later in the results section.

The STAI-6 data was also checked to consider whether it was normally distributed and therefore suitable for parametric testing. As the number of participants in each group was

greater than 50, Mishra, Pandey, Singh, Gupta, Sahu & Keshri (2019) state that the Kolmogorov-Smirnov test for normality be employed.

Results

The study had 109 participants, the ages of the participants ranged from 19 to 66 years old. To consider the suitability for univariate analysis over the need for multivariate analysis, the potential confounder variables were compared. The comparisons were made between the two independent groups that participants were randomly allocated to, the black patient group (BPG), or white patient group (WPG). Allocation was automatically assigned by being exposed to different stimuli, where the participants were blind to the grouping and the existence of the other group. The variables included the age, ethnicity type, gender, years worked in mental health, job role and setting that they worked in. Table 5.1 shows an overview of the distributions of a selection of the demographic variables across the two groups.

Table 5.1: Demographic characteristics of respondents for each of the groups

	BPG	WPG	
Number of respondents	54	55	
Age (years)			
Mean (SD)	32.5 (10.6)	32.8 (9.7)	(*p*=0.48)
Gender (n/(%))			
Female	43	45	
Male	9	9	
Non-Binary	2	1	
Prefer not to say	1	0	
Ethnicity (n/(%))			
Black – any type	4	4	
White – any type	44	47	
Asian – any type	4	2	
Mixed Ethnic Group	1	2	
Prefer not to say	1	0	

The age of the participants was almost identical, with participants in the BPG being younger (M = 32.52, SD = 10.63) than those in the WPG (M = 32.75, SD = 9.66). The difference between the groups was non-significant ($t(107)=-0.041$, $p=0.48$). Moreover, the gender and ethnicity distributions across the two groups appeared well matched, therefore it was felt that this did not need to be considered for further analysis.

The number of years worked in mental health settings was greater for the participants in the BPG (M = 5.50, SD = 6.71), when compared to those allocated to the WPG (M = 4.60, SD = 5.03). As the data was not normally distributed, a Mann-Whitney U Test was carried out to determine if these differences were significant, with the results indicating that this difference was not significant (Z = - 0.56, $p = 0.55$).

The job breakdown by group has been shown in table 5.2, with participants well matched across the two groups. It was therefore not felt that this needed to be considered for further analysis.

Table 5.2: breakdown of job type between those allocated to the BPG and WPG

	BPG	WPG
Nursing	20	22
Psychology and Psychotherapy	21	20
Occupational Therapy	2	4
Medical	3	1
Social Work	1	1
Other	5	7
Prefer not to say	2	0

The ethnicity comparisons between the two groups are shown in table 5.1. Whilst the groups both again appeared well matched, it should be noted that the sample for both groups was made up by predominantly white individuals. One participant in the BPG preferred not to disclose their ethnic group.

The gender of the patients that staff worked with seemed to differ slightly between the two groups. The BPG group worked with women patients (n=15) more than those who were

allocated to the WPG (*n*=10). The men patient numbers were fairly similar for the BPG (*n*=20) and WPG (*n*=23). Furthermore, the number of people working on mixed wards was also similar, with those allocated to the BPG (*n*=19) not working as much on mixed wards when compared to those allocated to the WPG (*n*=22). A Chi squared test was carried out to consider if the differences between the groups was significant. The results showed that despite the differences, the differences were not significant, $\chi^2(2, N = 109) = 1.42$, $p = 0.49$.

The setting that participants worked in varied. A comparison between the two groups is show in table 5.3. The groups appear fairly well matched in some areas such as the number of individuals who worked in medium secure units, however in others, such as the number of people working in high secure services, there are quite notable differences. A Chi squared test was carried out to consider if the differences between the groups was significant. The results showed that there were no significant difference between the two groups, $\chi^2(8, N = 109) = 9.35$, $p = 0.313$.

Table 5.3: Breakdown of workplace settings by those allocated to the BPG and WPG

	BPG	WPG
Low Secure Adult	9	11
Medium Secure Adult	11	9
High Secure Adult	1	7
Non-Forensic Adult	5	3
Non-Forensic Child	6	2
Acute	10	14
Intensive Care Unit	3	4
Rehabilitation or long term	7	4
Other	2	1

As there were no significant differences between the demographic data of the group, univariate analyses were performed.

Comparing the anxiety scores between BPG and WPG at each level

A Kolmogorov-Smirnov test was performed for each group and at each level (baseline, scenario 1, 2 and 3). The results of this showed that the data was not normally distributed across both groups in the baseline anxiety scores (d=0.13, p < 0.05; d=0.13, p <

0.05), as well as the anxiety scores in the scenario 3 (d=0.17, p <0.05; d=0.17, p<0.05). Scenario 1 showed normally distributed data for the BPG (d=0.11, p = 0.16), however non-normally distributed data for the WPG (d=0.086, p < 0.05). This was still the case, even after log transformations. Therefore, non-parametric tests were used for analysis between groups for these three sets of data. Mann-Whitney U tests were performed.

Both groups in scenario 2 showed a normally distributed response type (d=0.064, p = 0.20; d = 0.070, p=0.20), therefore a parametric test was used with this data, in this instance, an independent samples t-test.

Initial analysis was used to test if there were baseline differences in STAI-6 scores between the two groups. There were no significant differences between the two groups at baseline, z = -0.27, p = 0.78. The results indicated that there was no significant difference in anxiety scores between the patient groups in scenario 1, z = - 0.19, p = 0.85, scenario 2, t(107)=0.22, p=0.83 or scenario 3, z = -0.28, p = 0.78. Table 5.4 illustrates the similar mean scores across both groups at each of the testing points. As shown in table 5.4, as the scenarios increased, as did the anxiety scores, which indicates that the scenarios achieved their role in gradually increasing the feeling of threat at each level.

Table 5.4: STAIS-6 mean scores (n=109) with the standard deviations at each level and between groups

	BPG Mean (Standard Deviation) (n=54)	WPG Mean (Standard Deviations) (n=55)	Significance
Baseline	13.56 (4.26)	13.58 (4.93)	p = 0.78
Scenario 1 – mild threat	18.37 (4.08)	18.41 (4.87)	p = 0.85
Scenario 2 – moderate threat	23.62 (5.21)	23.40 (5.77)	p = 0.83
Scenario 3 – severe threat	27.59 (4.28)	27.55 (5.08)	p = 0.78

Comparing the response types

The other metric for considering participants' threat responses was their response choice to each scenario. A Chi squared analysis was carried out for each scenario, comparing the likelihood of responses between the BPG and WPG. These are shown in table 5.5, detailed below.

Table 5.5: Chi squared test, comparing the likelihood of the response types based on the patient group

	Response Type	**Chi squared Test**
Scenario 1	**Type 1 - freeze**	**χ^2 (1, N = 109) = 4.10, p = 0.043***
No threat	**Type 2 – flight**	χ^2 (1, N = 109) = 0.02, p = 0.96
	Type 3 – low level fight	χ^2 (1, N = 109) = 1.33, p = 0.51
	Type 4 – fight	n/a
Scenario 2	**Type 1 - freeze**	χ^2 (1, N = 109) = 2.24, p = 0.14
Mild threat	**Type 2 – flight**	χ^2 (1, N = 109) = 0.085, p = 0.77
	Type 3 – low level fight	χ^2 (1, N = 109) = 2.08, p = 0.15
	Type 4 – fight	χ^2 (1, N = 109) = 0.75, p = 0.39
Scenario 3	**Type 1 - freeze**	χ^2 (1, N = 109) = 2.08, p = 0.15
Severe threat	**Type 2 – flight**	χ^2 (1, N = 109) = 0.86, p = 0.35
	Type 3 – low level fight	χ^2 (1, N = 109) = 0.19, p = 0.66
	Type 4 – fight	χ^2 (1, N = 109) = 0.011, p = 0.92

The only scenario and response type that elicited a significant difference between the two groups was the type 1 response to scenario 1. As illustrated in figure 5.1, the most common response for both BPG and WPG was low level fight, however there were no differences in the likelihood of this response between the two groups. A freeze response in the BPG was significantly more likely, when compared to individuals in the WPG. It should be noted in figure 5.1, and the subsequent figures, it is possible for columns to add up to more than 100% as respondents could select more than one response type.

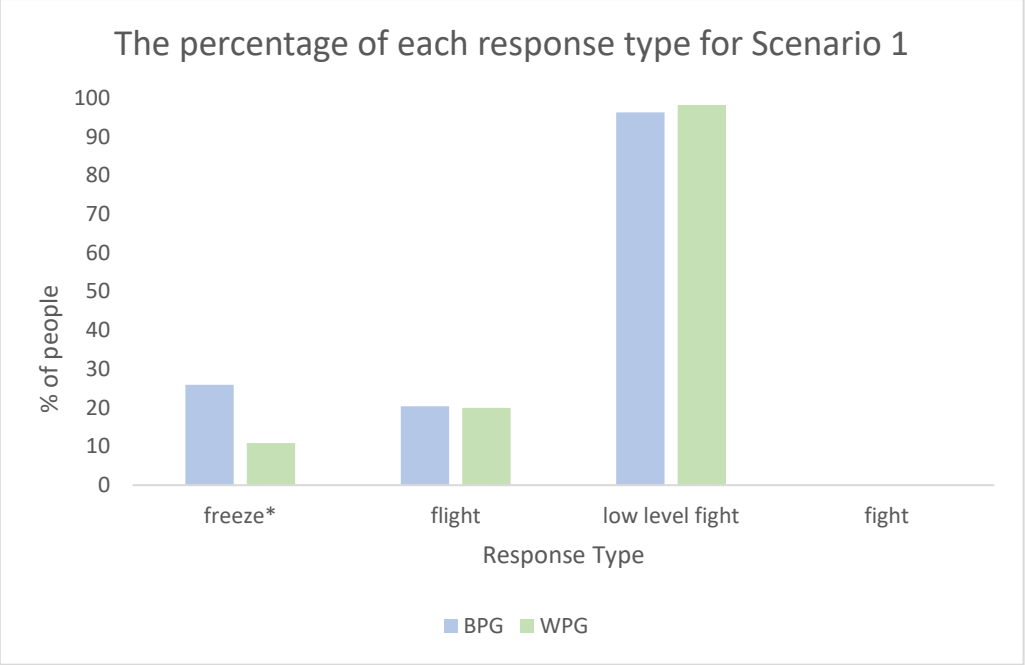

Figure 5.1: Comparing the percentage of response types by BPG and WPG for Scenario 1 (* denotes significant difference)

All other scenarios and response types did not significantly differ, indicating that the responses were similar, irrespective of the patient group participants were allocated to. No participant provided a type 4 response to scenario 1 across both groups.

For Scenario 2, as illustrated by Figure 5.2, all of the responses were more likely in the BPG than WPG. However, there were no statistically significant differences in these response types.

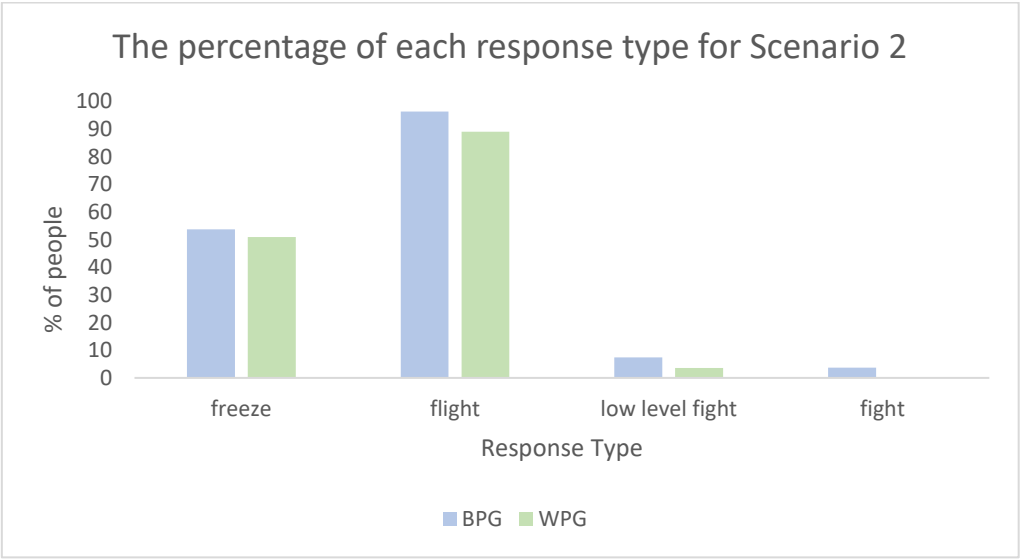

Figure 5.2: Comparing the percentage of response types by BPG and WPG for Scenario 2 (* denotes significant difference)

For scenario 3, as illustrated by figure 5.3, all of the responses were more likely to occur in the BPG than WPG. However, in a similar manner to scenario 2, none of these differences were statistically significant.

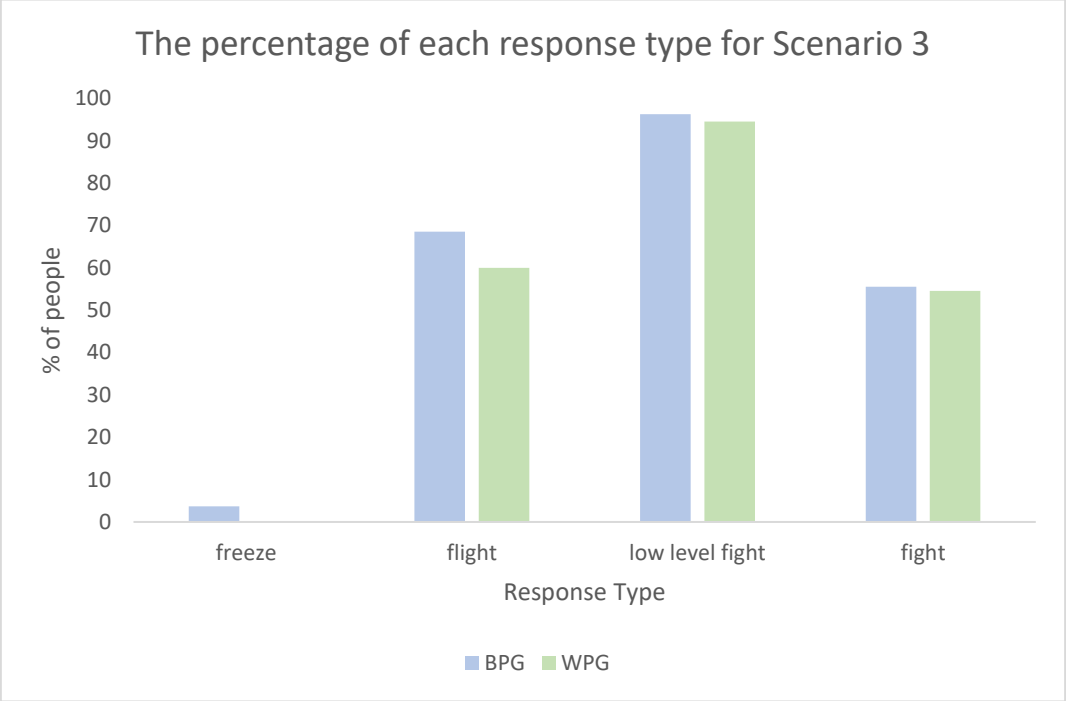

Figure 5.3: Comparing the percentage of response types by BPG and WPG for Scenario 3 (* denotes significant difference)

Restraint predictors

In line with the hypothesis, Chi squared testing was conducted to consider whether there were differences between the BPG and WPG in the likelihood of the three restraint types in each scenario. These results are shown in table 5.6, with n/a responses being indicative of no participants presenting with that response.

Table 5.6: Chi squared test, comparing the likelihood of the restraint response types based on the patient group

	Response Type	Chi squared Test
Scenario 1	**Physical Restraint**	n/a
No threat	**Chemical Restraint**	n/a
	Environmental Restraint	n/a
Scenario 2	**Physical Restraint**	χ^2 (1, N = 109) = 1.03, p = 0.31
Mild threat	**Chemical Restraint**	n/a
	Environmental Restraint	χ^2 (1, N = 109) = 0.23, p = 0.63
Scenario 3	**Physical Restraint**	χ^2 (1, N = 109) = 0.008, p = 0.93
Severe threat	**Chemical Restraint**	χ^2 (1, N = 109) = 0.37, p = 0.54
	Environmental Restraint	χ^2 (1, N = 109) = 0.50, p = 0.48

Figure 5.4 shows the differences in restraint responses between the two groups for scenario 2. Both physical and environmental restraint were more common in the BPG compared to the WPG, however this was not a statistically significant difference.

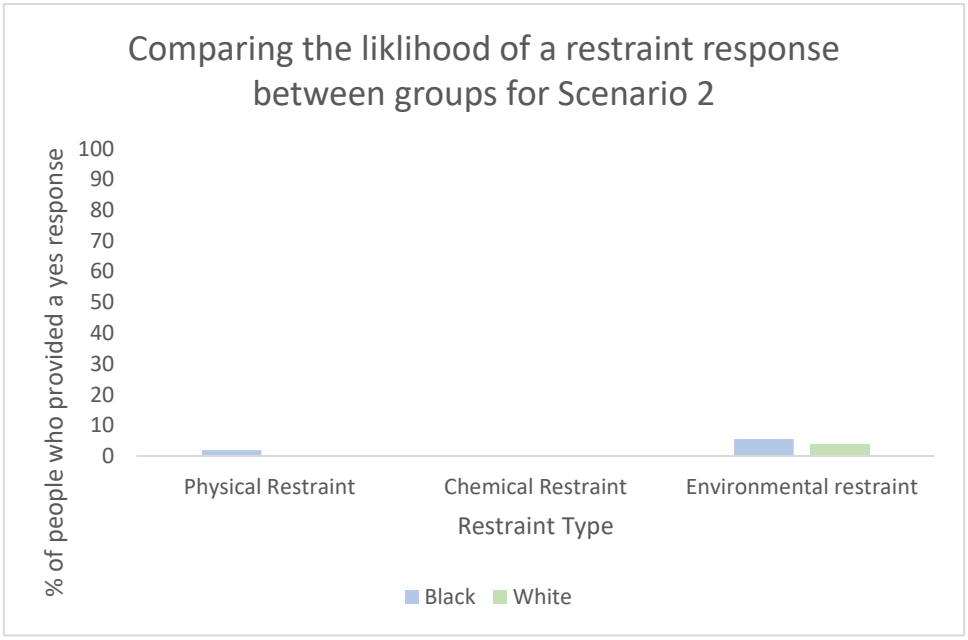

Figure 5.4: Comparing the percentage of restraint response types by BPG and WPG for Scenario 2 (* denotes significant difference)

Figure 5.5, illustrates the differences in restraint responses between the two groups for scenario 3. All restraint types were more common in the BPG compared to the WPG, however this was not a statistically significant difference.

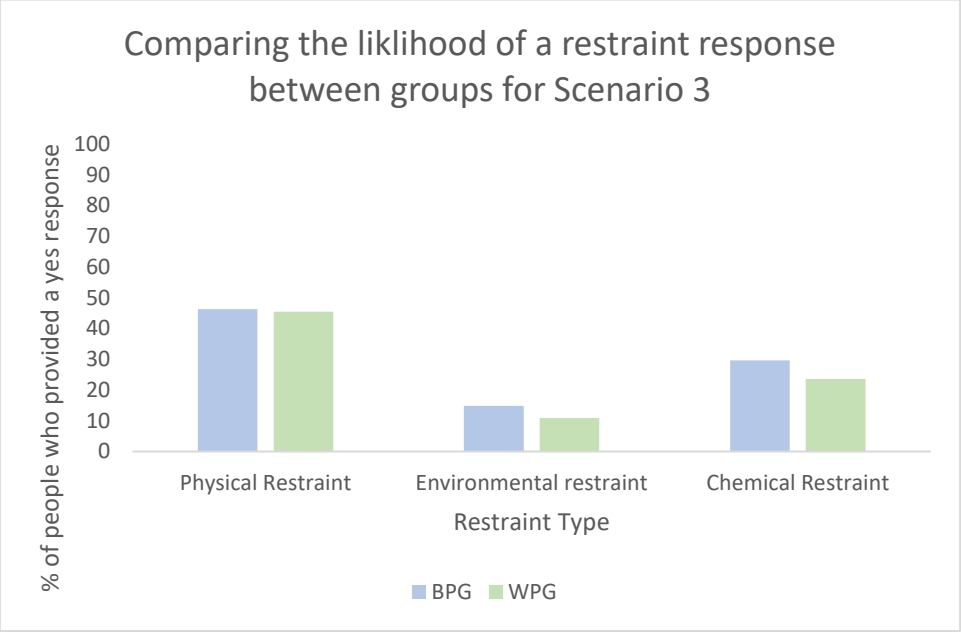

Figure 5.5: Comparing the percentage of restraint response types by BPG and WPG for Scenario 3 (* denotes significant difference)

Discussion

The first research question asked whether staff find a black patient's behaviour more threatening when compared to a white patient displaying the same behaviour. The answer to this is that, in some circumstances, yes. When presented with a low-level threatening situation, a patient who is making derogatory verbal comments, staff were more likely to stand still or do nothing, providing a freeze response, when the patient was black when compared to a white patient presenting with the same behaviour. It is unclear why this response might be different between the BPG and the WPG, however it could be that the black patient was seen as more threatening in this situation, when compared to the white patient, thus eliciting this freeze type threat response. It was interesting to note that this was

the only significant threat response difference between the groups and not something more tangible.

Understanding the reason for a freeze response is also important to consider. If the freeze responses are interpreted as ignoring the problem, this could be seen as a form of micro-aggression (Sue et al. 2007). Micro-aggressions in themselves have detrimental consequences such as increased vulnerabilities to certain mental health conditions, and a lack of behavioural control (Nadal, Griffin, Wong, Hamit, & Rasmus, 2014), both outcomes that psychiatric hospitals aim to manage.

Furthermore, ignoring or having a freeze response could also lead to wider problems if the issues are not managed or resolved. Whilst it might seem that such a non-response would not escalate behaviours, the opposite is in fact likely. It has been shown that when patients feel unheard or ignored, this increases risk as it precipitates restraint interventions (Bonner, Lowe, Rawcliffe & Wellman, 2002).

As explored in the previous research study (see Chapter Four), it should be noted that p values should not always take precedence over the results themselves (Carver, 1993). In the present study, and to answer the second hypothesis, does being a black patient mean that all staff will find a patient's behaviour more threatening when compared to a white patient displaying the same behaviour, the findings were somewhat inconclusive. Whilst every threat response type (barring one, the low-level fight in scenario 1) was more likely in the BPG compared to the WPG, there is a caveat, that only one of these analyses reached statistical significance (freeze response to scenario 1). Therefore, despite trends being seen, it is not possible to assert whether staff found black patient's behaviour as more threatening when compared to a white patient displaying the same behaviour.

Moreover, in answering the third hypothesis, does being black increase the likelihood of a patient being restrained in some form, similar statistically non-significant differences

between the groups occurred. It was found that, although statistically non-significant, the number of staff members choosing to implement a form of restraint was greater across all the restraint types in the BPG when compared to the WPG. Due to the statistically non-significant results, it cannot be viewed as compelling evidence, however it would be pertinent to not ignore this trend. These differences could perhaps arise from unconscious ethnic bias. As this bias occurs in a subtle manner, in statistical terms it might not lead to statistically significant result. However, in real world terms, this could be significant. If these unconscious biases lead to just one more patient being treated in a manner that is inconsistent (something that would be unlikely to lead to statistically significant differences), heavy-handed, harsh or unfair, it can impact on treatment outcomes and practice. Further studies in this area could either incorporate, or focus on, using a qualitative approach to help identify and highlight the differences in these responses.

The mean anxiety scores were almost identical for both the BPG and WPG. The mean anxiety score also changed in response to the differing scenario threat levels. Seeing differences based on the scenarios, but no significant differences between anxiety scores between the groups on each scenario suggests that the feelings of anxiety were not affected by the ethnicity of the patients.

Implications for Practice

Presently within the NHS, diversity training often takes the form of e-learning, and or in person training, as standard. Staff are offered these training sessions when individuals start in their roles, often with routine refresher sessions every year. Training often encourages individuals to consider the diverse nature of the general population, but it might not educate individuals about subconscious biases that might play out within ward settings and how to counteract these. Furthermore, it is often assigned along with a variety of other mandatory

training sessions, which could mean that individuals who partake in this training are less engaged due to training fatigue.

Therefore, further to formal training, having spaces where certain biases can be discussed in a non-judgmental manner are beneficial. Wards should cultivate these by encouraging open and frank discussions in settings such as reflective practice meetings, training sessions, Balint groups and supervision. These can help make people more aware of how these issues could impact on their practice. This can help reduce the risk of inappropriate use of restraints, improving the experiences of black patients in mental health settings, in turn improving long term outcomes, with restraint being a predictor of hospital readmissions (Monnelly, 1997).

Finally, an increase in representation of people from minority ethnic backgrounds within staff roles could help reduce bias, through peer led education of staff members' in understanding different cultures (Swadi & Bobier, 2012). The possible limitations of these methods could be the emotional labour that staff might experience from having to explain these cultural differences. Something that could be further considered in reflective practice forums.

Limitations

The nature of the study limits the ability to draw conclusions that can be generalised to real life ward settings. Presenting participants with photos of patients and vignettes makes the study easy to replicate and disseminate, meaning more participants were recruited, but it does not mimic the exact situations that staff will be presented with in clinical practice, and therefore it is hard to assert that responses will be the same when confronted with the same situations in real life.

As the study by Flaskerud (1979) found, the use of two extreme scenarios did not yield differences in staff responses when presented with patients from different ethnic

backgrounds. This study tried to work upon this by including another scenario, however it could have been that there were not enough subtle differences between the scenarios. This is something that could be employed in future studies. However, a balance needs to be considered, as having too many scenarios could lead to participant attrition.

This study used two faces, one to depict an individual from a black background and another a white background. It could therefore be argued that responses might be representative of a response to the specific face rather than the general ethnic group it is designed to represent. Future studies could better this limitation by employing a variety of faces for each ethnic group. Furthermore, as employed in Chapter Four, a mixed ethnic group could also be used to consider whether this elicits a different response.

The sample size of the study was relatively small, although enough to ensure 80% power with a moderate effect size, but this could be increased in future studies.
A larger sample size could help ensure there was more representation from other minority ethnic groups. There were few participants from minority ethnic groups, so possible effects of ingroup and outgroup ethnic bias could not be explored.

There is also scope for the design to be changed to a within-subjects design, employing such a design could help to mitigate the confounder variables that may impact on response choices. However, such a design could create its own limitation in the form of participant bias. This bias could arise if the subjects manage to work out what the aim of the study is and try moderate their responses by providing socially desirable responses.

Moreover, the number of statistical analyses carried out is a limitation as the more analyses that are run, the higher the likelihood of a familywise error rate (Nichols & Hayasaka, 2003). Whilst it was felt it was the most effective way to measure the data that was recorded, it is important to consider this as a limitation, and future studies could try to capture more binary response types or qualitative responses.

Conclusion

Whilst a significant difference was observed in one of the response types in one of the scenarios, overall, there did not appear to be statistically significant differences between the BPG and WPG. Despite this, it should not be ignored that the BPG elicited a greater proportion of threat responses and restraint types when compared to the WPG. It is possible that this lack of statistical significance is due to the subtlety and unconscious nature of ethnic discrimination. Qualitative methodology could be employed in a similar study to address this hypothesis.

Chapter Six: Discussion

The aim of this thesis was to consider why more individuals from black backgrounds are restrained in inpatient mental health settings, when compared to white counterparts, considering especially the role of threat perception. As identified in the introduction, threat perception is a multifaceted process. One component of threat perception is the ethnicity of an individual. It seems plausible that as research shows ethnicity as a factor in whom we perceive as threatening in wider society, it could explain why there are discrepancies between the restraint rates of black and white patients in inpatient units.

Chapter Two used a systematic review to consider how discrepancies play out between ethnicities in restraint rates in inpatient psychiatric settings. This considered whether the issue was a black patient problem, or whether there are wider cross-cultural issues pertaining to minority ethnic groups being treated in a negative manner. Specific criteria were used which led to sixteen studies being analysed in the review. Findings were mixed, with some studies showing that minority ethnic status was a predictor of restraint, and others not so. There did not appear to be a consistent direction of the evidence and it is possible that this is representative of the complexity of the threat perception process, with many factors being involved in the way people both interpret and respond to threatening situations.

In the review, seclusion was the most frequently researched restrictive practice, and also yielded the highest proportion of studies where ethnicity was shown to be a predictor of an individual experiencing this form of restrictive practice. It should be noted that several of the studies that showed ethnicity as a predictor for seclusion employed univariate analyses of the data, therefore it could be argued that it is hard to establish causation.

Statistically, individuals in the UK from a minority ethnic background are four times more likely to be subject to restrictive interventions such as being restrained in inpatient

settings (NHS Digital, 2023). However, of the studies that explored physical restraint in the UK, it was interesting to observe that one showed an effect, whilst one did not. Reasoning as to why there was one study that did not show an effect, whilst two did, could point towards the idea that the prediction of restraints is a multifactorial process. Bennewith et al. (2010) highlight this, by showing that even though there were significant discrepancies in the number of black patients being restrained compared to other ethnic groups, this was explained by the fact that most were detained in hospitals that were perceived to be more coercive. When the model was adjusted for this, black patients were not significantly more likely to experience restraints.

However, a further explanation could have been identified by Payne-Gill, Whitfield & Beck (2021) who reported the only study to examine different types of physical restraints, breaking down their physical restraint category into restraints in the prone and non-prone positions. Their findings were different depending on the position that individuals were restrained in. There were no ethnic differences in the non-prone position, but Black Caribbean individuals were more likely to be restrained in the prone position compared to other ethnic groups. This is of particular importance as prone restraints are more dangerous than non-prone, with possible risk of cardiac arrests (Steinberg, 2021). Possibly, if staff members perceive black patients as more threatening (Correll, Park, Judd & Wittenbrink, 2002), they are more likely to escalate their response and use prone restraint when working with black patients.

Greater consistency in future studies would help to increase the ability to take a more confident view about the role ethnicity plays in the administration of restrictive practices. This might be difficult especially when there are different types of restrictive practices that are carried out, which are often driven by guidance derived from specific healthcare systems. On this basis, it could be that future studies are also employed to explore mental health staff's

attitudes towards people with mental health problems from different ethnic groups, as in the study described in Chapter Four. Exploration in this area might help to explain whether there is unconscious bias, and in turn, could help to consider whether and how this might affect the use of restrictive practices.

Prior to Chapter Four, Chapter Three was used to evaluate the suitability of the AMI psychometric measure that was considered for use in Chapter Four. The AMI was designed to capture general attitudes towards people experiencing mental health difficulties. It has been widely used in the general population by the British government. The critique found that it was an appropriate tool to measure a person's attitude towards mental illness, with discussion about the number of factors that could be derived from the tool.

Chapter Four considered whether there were differences in the way that society views black mental health patients when compared to white mental health patients. Although the findings were not statistically significant, participants tended to hold more negative attitudes towards a black patient when compared to a white patient.

Within the study, the statement that yielded the greatest difference between the ethnic groups was that around thinking that the patient is likely to get in trouble with the law. This is important to consider, and reinforces what has been highlighted in the introduction, namely that black people are seen as more threatening than white people (Correll, Urland & Ito, 2006; Greenwald, Oakes & Hoffman, 2003; Plant, Goplen & Kunstman, 2011). Furthermore, it also reinforces the idea that black people experiencing mental health difficulties are seen as more likely to be violent, something that has previously been evidenced (Peffley & Hurtitz, 2002). What was notable too was the CPG also rated this item more strongly than the WPG, suggesting that the responders felt that a woman from a mixed ethnic background is more likely to get in trouble with the law, when compared to a white man. This is interesting to

consider as it has been shown that whilst the reporting of mass shootings is attributed more to mental health problems in white people when compared to black individuals, white individuals are presented in a more sympathetic light, with black individuals more likely to be described as violent threats to society (Duxbury, Frizzell & Lindsay, 2018). It is possible therefore that even being from a mixed ethnic group means that people will be seen in a more negative light when compared to a white individual presenting with the same problems.

If black and mixed ethnic group patients are being viewed as more likely to get in trouble with the law, it is possible to consider the implications this might therefore have in both community and inpatient settings. There might be a preconceived idea that certain behaviours are seen as more risky than they have perhaps intended. This could therefore impact upon decisions that are made by clinicians, for example, there might be a feeling that patients in the community might need to be treated in contained environments such as inpatient settings. As evidenced by the statistics, this trend is already occurring, with black people being over four times more likely to be detained under the Mental Health Act when compared to white individuals (NHS Digital, 2023). Chapter Five was used to examine whether this trend occurs within inpatient settings and whether this impacted upon treatment.

Chapter Five considered how ward staff respond to identical behaviours of black and white patients on mental health wards. This was done by exploring specifically whether there were differences in the feelings of anxiety these behaviours elicited, and the staff responses to the behaviours. Similar to the findings from Chapter Four, although the majority of the results were not statistically significant, participants did tend to respond in a more negative way towards the black patient when compared to the white patient presenting with the same behaviours. This may reflect underlying unconscious biases, which may be subtle and therefore difficult to identify using statistical comparisons between groups.

However, there was one scenario that elicited a statistically significant difference between the two groups. When presented with a low-level threatening situation, a patient who is making derogatory verbal comments, staff were more likely to stand still or do nothing, providing a freeze response, when the patient was black when compared to a white patient presenting with the same behaviour. On the surface a freeze response seems unremarkable, however understanding the reason for a freeze response is important to consider. If the freeze response is interpreted as ignoring the problem, this could be seen as a form of ethnic micro-aggression (Sue et al. 2007). A micro-aggression is a subtle hostile way of discriminating against someone based on certain characteristics. This is notable as it has been shown that when patients feel unheard or ignored it can breed frustration and resentment. This can impact the therapeutic relationship that patients develop with staff and this in turn increases risk as feeling unheard has been shown to precipitate restraint interventions (Bonner, Lowe, Rawcliffe & Wellman, 2002).

It was found that, although statistically non-significant, the number of staff members choosing to implement a form of restraint was greater across all the restraint types in the BPG when compared to the WPG. This is consistent with the hypothesis that black patients are more likely to be restrained when compared to white patients, but equally it cannot be regarded as compelling evidence.

These almost universal differences, that are not always statistically significant, could perhaps arise from unconscious ethnic bias. As this ethnic bias occurs in a subtle manner, in statistical terms it might not yield a statistically significant result. However, in real world terms, there are significant implications for practice.

Implications for future practice

This thesis aimed to explore why black people are more likely to be restrained in inpatient mental health settings. Whilst not showing statistically significant results, the importance of the trends seen in Chapters Four and Five, namely that black patients tend to be seen in a more negative light, and that black patients tend to elicit more of a threat response, should not be understated. Real world implications of such findings imply that there may be unconscious discrimination that occurs towards black mental health patients. Arguably one person being subjected to inappropriate restraints, something that a statistical test might not deem 'significant,' is one too many.

This thesis opens a discussion about the role that unconscious bias plays in the way we perceive threat, and how it may affect the way we treat black patients in inpatient mental health settings. Open and frank discussions in ward settings such as reflective practice meetings, training sessions, Balint groups and supervision can help make people more aware how these issues could impact on their practice. This can help reduce the risk of inappropriate use of restraints, improving the experiences of black patients in mental health settings, in turn improving long term outcomes, with restraint being a predictor of hospital readmissions (Monnelly, 1997). Further to this, spaces such as these could also be used to consider the impact of freeze type responses to patients. Whilst it might feel that such reactions are unlikely to be significant, they could be interpreted as a micro aggression, increasing the risk of the relationship deteriorating and subsequently the risk of the behaviour escalating.

As has been identified at various points within this thesis, biases might present in subtle ways. It might therefore be hard to detect them with the use of statistical tests. Future research would benefit from incorporating a qualitative component to better understand staff and patient's experiences of restraints. A study could similarly take the form of that in Chapter Five, with participants being asked how they are feeling after being presented with different patients. However, an alternative approach could be employed, one similar to a

study that has been carried out within the prison services in the United Kingdom (HM Chief Inspector of Prisons, 2022). This involved focus groups with service users and staff, which were used to consider the experiences of people from minority ethnic groups via a thematic analysis. Using groups of people could prove both helpful, but also challenging, when considering the impact of socially desirable responses. It could be helpful if certain individuals name their own biases at making other participants feel comfortable with then sharing similar experiences. However, it could also prove challenging, especially if participants don't want to be seen as being 'racist,' by naming their own biases. Therefore, it might also be beneficial for interviews to take place on an individual basis, in order to mitigate some of the group interview shortcomings. Methods of analysis could also be considered based on the research question that the study is aiming to explore. For example, a content analysis could be employed if the questions are fairly broad and the nature of the study is exploratory. However, analysis such as interpretative phenomenological analysis could be implemented to understand specifically how people look to make sense of a set of circumstances, which could be implemented in a study similar to that of Chapter five where participants are presented with various scenarios asked to consider how they might feel and respond.

Limitations

Limitations of each part of the research have been outlined at the end of each chapter. However, a key limitation across the thesis was the use of statistical methods to analyse attitudes towards certain groups of people, and the subsequent responses they might then have towards them. These attitudes, as indicated, might present in subtle ways. It might therefore be hard to detect them with the use of statistical tests. Future research would benefit from incorporating a qualitative component to better understand staff and patient's experiences of restraints.

Furthermore, another key limitation is using questionnaires and fictitious situations to try to replicate real-life scenarios. Whilst it would be hard to replicate such situations, the inclusion of videos, or role-playing such scenarios, could further help to enrich the study's findings as this would help to make the vignettes feel more life-like, and thus in turn, elicit more real-life responses.

A further limitation was the lack of representation of black people within the recruited participants. As discussed in Chapter One, it is possible that discrepancies between attitudes and responses within society towards ethnic groups are explained by ingroup-outgroup effects. Therefore, future research should look to address such an effect by ensuring there are more black participants, as well as participants that are representative of all communities. This could be done by having stricter inclusion criteria, focusing primarily on individuals from these backgrounds when formulating the research, which could in turn lead people from these groups to be more likely to participate. Further to this, adverts within particular diversity forums such as workplace inclusion groups could help to increase awareness, and in turn engagement with such studies, across all ethnic groups.

A final and broader limitation of this research, and any research that explores threat perception, is the multifaceted nature of threat perception which links to the subjective nature of it. To fully control for all the variables that contribute to this will always be hard to achieve.

Conclusion

As this thesis has identified, fully understanding the relationship between ethnicity and the likelihood of restraint in inpatient psychiatric settings is complex. There appears to be some evidence to suggest that unconscious bias might impact how black patients are viewed in a more negative light when compared to white patients. Furthermore, there seems to be

evidence to suggest that these differences might affect how staff respond to patients from a black background and this could be one explanation as to why there are disproportionately more black patients restrained in inpatient psychiatric settings. The implications of this on staff's practice should be considered, with training and reflective spaces used to increase awareness of this issue in a bid to improve the experiences of black patients in mental health hospitals.

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Appendices

Appendix 1: PRISMA checklist

Section and Topic	Item #	Ch ecklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Completed
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Whole introduction
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Subtitled review question
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Detailed in methods section
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Detailed in methods section
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Detailed in methods section
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Detailed in methods section
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Detailed in methods section
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Data extraction section
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Data extraction section

Section and Topic	Item #	Ch ecklist item	Location where item is reported
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Quality assessment
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Quality assessment
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Data extraction
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	n/a
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Results section
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	n/a
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	n/a
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	n/a
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Quality assessment
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Quality assessment
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Results section
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Results section
Study characteristics	17	Cite each included study and present its characteristics.	Results section
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Results section
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Table 2.1
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Table 2.2
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision	Table 2.1

Section and Topic	Item #	Ch ecklist item	Location where item is reported
		(e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Results section
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Table 2.2
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Table 2.2
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Restrictive Practice subsections of the results
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Discussion section
	23b	Discuss any limitations of the evidence included in the review.	Limitations section
	23c	Discuss any limitations of the review processes used.	Limitations section
	23d	Discuss implications of the results for practice, policy, and future research.	Recommendations section
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	FigShare stated
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Link provided
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Stated
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	n/a
Competing interests	26	Declare any competing interests of review authors.	n/a
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	n/a

Appendix 2: PRISMA Abstract checklist

Section and Topic	Item #	Checklist item	Reported (Yes/No)
TITLE			
Title	1	Identify the report as a systematic review.	Yes
BACKGROUND			
Objectives	2	Provide an explicit statement of the main objective(s) or question(s) the review addresses.	Yes
METHODS			
Eligibility criteria	3	Specify the inclusion and exclusion criteria for the review.	No
Information sources	4	Specify the information sources (e.g. databases, registers) used to identify studies and the date when each was last searched.	Yes
Risk of bias	5	Specify the methods used to assess risk of bias in the included studies.	Yes
Synthesis of results	6	Specify the methods used to present and synthesise results.	Yes
RESULTS			
Included studies	7	Give the total number of included studies and participants and summarise relevant characteristics of studies.	Yes
Synthesis of results	8	Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (i.e. which group is favoured).	Yes
DISCUSSION			
Limitations of evidence	9	Provide a brief summary of the limitations of the evidence included in the review (e.g. study risk of bias, inconsistency and imprecision).	No
Interpretation	10	Provide a general interpretation of the results and important implications.	Implications for practice
OTHER			
Funding	11	Specify the primary source of funding for the review.	n/a
Registration	12	Provide the register name and registration number.	n/a

Appendix 3: CASP cohort checklists

Table 2.2: CASP Cohort Checklist for each study

1	Ethnicity and coercion among involuntarily detained psychiatric in-patients
The study addresses a clearly focused issue	Yes – detained black and minority ethnic back ground patients would experience more coercion than white patients
ethnicity was a primary hypothesis?	Yes
The cohort was recruited in an acceptable way	Yes - Twenty-two hospitals managed by eight mental health trusts, located in London and in the south-east, north-west and southwest of England, participated in a study of involuntary hospital admissions.7 Patients aged 18–65 years who had been admitted under Sections 2, 3 or 4 of the Mental Health Act 1983, or who became involuntary patients within a week of admission, were recruited between July 2003 and July 2005
The exposure was accurately measured	Yes – objective measurement of demographic variables. Also measurement of coercive practice via interviews, so there was an element of subjectivity in experiences of coercion even if not just records of coercive measures from staff. Results were adjusted for age, gender, diagnosis and mental health trust
The outcome was accurately measured	Yes – as above
Have the authors identified all important confounding factors?	Yes - Gender, Age, Diagnosis and mental health trust as risk factors as well as Ethnicity
Have they taken account of the confounding factors in the design and/or analysis?	Yes – Results adjusted for gender, age, diagnosis and mental health trust
Was the follow up of subjects complete enough?	Yes – type of study was over a course of time
Was the follow up of subjects long enough?	Yes – over period of time as above

Do you believe the results?	Can't tell – used a large sample size, and across lots of different areas, therefore big power, however the wide confidence intervals suggest that the results are a little inexact

3	Associations of Restraint and Seclusion With Race and Ethnicity on an Adolescent Inpatient Psychiatry Service
The study addresses a clearly focused issue	Yes -.exploring the relationship of race and ethnicity with restraint and seclusion within adolescent inpatient services
ethnicity was a primary hypothesis?	Yes
The cohort was recruited in an acceptable way	Yes - 1865 admissions of 1327 patients from an adolescent unit at a child and adolescent psychiatric hospital from June 2018 to June 2021, examined all of the restraint and seclusion episodes over the period of the study, therefore no obvious bias
The exposure was accurately measured	Yes – objective measurement of recorded incidents
The outcome was accurately measured	Yes – as above
Have the authors identified all important confounding factors?	Yes - Ethnicity, age, gender, length of stay
Have they taken account of the confounding factors in the design and/or analysis?	Yes – Binary logistic regression used to consider interactions between variables that could impact on likelihood of being restrained
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a three year period
Was the follow up of subjects long enough?	Yes – over period of three years as above
Do you believe the results?	Yes – regression model used to consider confounding variables and large sample size of 459 restraints over the time period

4	People who experience seclusion in adult mental health inpatient services: An examination of health of the nation outcome scales scores
The study addresses a clearly focused issue	Yes -.Considered primarily the HoNoS scores and whether these predict seclusion in adult mental health inpatient services
ethnicity was a primary hypothesis?	No – as above
The cohort was recruited in an acceptable way	Yes - recruited from a hospital setting in New Zealand, from 19 different health boards
The exposure was accurately measured	Yes – seclusion was defined as were the HoNoS scores, also the ethnicities were defined, and a fairly objective measure.
The outcome was accurately measured	Yes – as above, along with the demographic data
Have the authors identified all important confounding factors?	Can't tell - they seem to have done so, as this was part of the design, considering age, gender, ethnicity, type of admission, unclear if they've documented diagnosis type
Have they taken account of the confounding factors in the design and/or analysis?	Yes – Used univariate analysis, and then stepwise multiple regression but mainly for the adjustment for the HoNoS scores, and did not seem to explore the significant scores in their own manner.
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of one year
Was the follow up of subjects long enough?	Yes – over period of one year as above
Do you believe the results?	Yes – generally speaking a large sample size and regression model used, however did not explore in great detail what we were interested in, so hard to tell as only focused on univariate analysis

5	No evidence for restrictive care practices in Māori admitted to a New Zealand psychiatric inpatient unit: do specialist cultural teams have a role?
The study addresses a clearly focused issue	Yes -. To ascertain the presence, and describe the pattern and extent, of restrictive care practices in the treatment of mental health inpatients in a rural New Zealand unit.
ethnicity was a primary hypothesis?	Yes
The cohort was recruited in an acceptable way	Yes - yes, from one hospital retrospectively, over the course of a one year period. Retrospective data was anonymously extracted from patient records at Rotorua Hospital (Rotorua, New Zealand). Data sets were compiled from 300 consecutive patient admissions between January 2000 and December 2001
The exposure was accurately measured	Yes – things such as dosage of antipsychotic medication, voluntary or involuntary status, readmission rates, seclusion all measured, and all objective, along with this, primary diagnosis, length of stay also measured as well as demographic data
The outcome was accurately measured	Yes – as above, along with the demographic data
Have the authors identified all important confounding factors?	Yes - they seem to have done so, as this was part of the design, considering age, gender, diagnosis, time between onset of illness and admission where appropriate, number of readmissions and compulsory status
Have they taken account of the confounding factors in the design and/or analysis?	Yes – they seem to have done so, as this was part of the design, considering age, gender, diagnosis, time between onset of illness and admission where appropriate, number of readmissions and compulsory status
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of one year
Was the follow up of subjects long enough?	Yes – over period of one year as above
Do you believe the results?	Yes – Although the study had over 90% power to detect differences between Maāori and non-Maāori in the proportions in seclusion and those admitted under compulsory status of 20%, the differences found were smaller and therefore the power to detect these was between 40 and 60%. Controlled for confounding variables and the sample sizes were quite large. 300 overall, but this decreased when working with people who are secluded.

6	Variation in seclusion rates across New Zealand's specialist mental health services: Are sociodemographic and clinical factors influencing this?
The study addresses a clearly focused issue	Yes - This study examined the extent to which variation in seclusion rates could be explained by the sociodemographic and clinical differences between populations admitted into adult mental health inpatient services.
ethnicity was a primary hypothesis?	No
The cohort was recruited in an acceptable way	Yes - district health boards sought and used to gain cohorts. everyone included who should have been
The exposure was accurately measured	Yes – Seclusion (yes/no) was the dependent variable basedon the number of admission cases where the personhad experienced one or more seclusion events. Sociodemographic factors examined included age(years), gender (male/female), and ethnicity (Maori/non-Maori).
The outcome was accurately measured	Yes – as above
Have the authors identified all important confounding factors?	No – have not included socioeconomic status and or diagnosis type
Have they taken account of the confounding factors in the design and/or analysis?	Yes – used a multiple regression technique in the last of the analyses
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of one year
Was the follow up of subjects long enough?	Yes – over period of one year as above
Do you believe the results?	Yes – although the analysis style was odd, which inked into the fact ethnicity was perhaps not a primary hypothesis, but by detecting differences between health boards and then considering if this changes when demographic variables are put into the regression. Found that no changes once demographic data put in, suggestive that demographic data does not affect results.

7	A retrospective cohort study evaluating demographic and clinical characteristics associated with use of seclusion in a London psychiatric intensive care unit
The study addresses a clearly focused issue	Yes – exploration of the demographic and clinical predictors of seclusion
ethnicity was a primary hypothesis?	No
The cohort was recruited in an acceptable way	Yes – admission data in a PICU over the course of a year
The exposure was accurately measured	Yes – examined in an objective manner based on what was recorded on the systems in place for the NHS trust
The outcome was accurately measured	Yes – as above
Have the authors identified all important confounding factors?	Yes - Age, ethnicity, employment, housing status on admission, diagnosis type
Have they taken account of the confounding factors in the design and/or analysis?	No – used Chis Squared tests, independent t-tests and Mann-Witney U tests, so no considerations about the interactions of the variables in the statistical models
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of one year
Was the follow up of subjects long enough?	Yes – over period of one year as above
Do you believe the results?	No – very small sample size, 139 admissions and 49 seclusions, along with univariate analyses mean that it is hard to assert causation with the results

8	Ethnic disparities in the use of seclusion for adult psychiatric inpatients in New Zealand
The study addresses a clearly focused issue	Yes – aims to investigate disparities in seclusion between Māori and non-Māori non-Pacific (nMnP) adults in mental health inpatient units in New Zealand.
ethnicity was a primary hypothesis?	Yes
The cohort was recruited in an acceptable way	Yes – uses data on 7,239 inpatient psychiatric admissions and 782 seclusion events for nine district health boards (servicing 39% of the New Zealand population) for the period 1 July 2008 to 30 June 2010, from a New Zealand Ministry of Health dataset (PRIMHD)
The exposure was accurately measured	Yes – objective measurement of demographic variables. Admission episode, seclusion events, ethnicity, gender and age, socioeconomic deprivation, primary diagnosis on admission, legal status on admission, referral pathway
The outcome was accurately measured	Yes – as above
Have the authors identified all important confounding factors?	Yes - Yes, most cofounders are present, as identified above
Have they taken account of the confounding factors in the design and/or analysis?	Yes – Regression modelling of seclusion event rate ratios for Māori compared to nMnP adjusted for age, gender, socioeconomic deprivation (NZDep2006), legal status, referral pathway and diagnosis.
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of two years
Was the follow up of subjects long enough?	Yes – over period of two years as above
Do you believe the results?	Yes – very large sample size, over 7,000 participants, and use of regression modelling

9	Clinical and demographic characteristics of secluded and mechanically restrained mentally ill patients: a retrospective study
The study addresses a clearly focused issue	Yes – explore in a correlational way, the relationship between coercive emasures, demographic characteristics and factors associated with shortened epriods of restraint
ethnicity was a primary hypothesis?	No
The cohort was recruited in an acceptable way	Yes – from one hospital retrospectively, over the course of a one year period. this hospital was in Israel and was the male acute closed ward of the psychiatric hospital.
The exposure was accurately measured	Yes – seclusion definition provided, as well as mechanical restraint, which in this instance, was in relation to patients being restrained with the use of belts.
The outcome was accurately measured	Yes – as above
Have the authors identified all important confounding factors?	Yes - seem to have done so, as this was part of the design, considering age, marital status, education, origin, diagnosis, time between onset of illness and admission where appropriate, number of readmissions and compulsory status. No gender as it was in a male unit.
Have they taken account of the confounding factors in the design and/or analysis?	Yes – Used univariate analysis, and then stepwise multiple regression including those univariate results that were significant.
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of one year
Was the follow up of subjects long enough?	Yes – over period of one year as above
Do you believe the results?	Yes – small sample size considered, the nature of the analyses helped to believe the results, greater sample size could further confirm this

10	Use of seclusion in an English high security hospital
The study addresses a clearly focused issue	Yes – to consider trends for use of seclusion in secure settings
ethnicity was a primary hypothesis?	No
The cohort was recruited in an acceptable way	Yes – from one hospital, one high secure hospital, A retrospective descriptive survey of seclusions occurring over a one-year period at Rampton Hospital was utilised.
The exposure was accurately measured	Yes – Basic demographic data were collected. Patients' self-reports were used to categorise ethnicity. For the purpose of statistical analyses, these were then simplified into one of four categories: White, Asian, Black and Other. Case notes were examined to determine the reason for seclusion. Also examined at what times seclusion was initiated and terminated in order to establish the total duration of seclusion for each episode
The outcome was accurately measured	Yes – length of time of seclusion, although relies on notation of this. Also considered the reasons for seclusion, again, this could be a subjective measure.
Have the authors identified all important confounding factors?	Yes - they seem to have done so, as this was part of the design, analysis of age, gender, ethnicity, diagnosis type and likelihood of seclusion
Have they taken account of the confounding factors in the design and/or analysis?	No – Used univariate analysis to consider each demographic variable as opposed to any form of regression.
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of one year
Was the follow up of subjects long enough?	Yes – over period of one year as above
Do you believe the results?	No – small sample size of secluded people, however when considering the way the data was analysed, univariate analyses also make it difficult to have assertion that the results are believable.

11	The relationship between ethnic background and the use of restrictive practices to manage incidents of violence or aggression in psychiatric inpatient setting. Payne-Gill
The study addresses a clearly focused issue	Yes - analyses the relationship between ethnicity and the use of restrictive practices to manage incidents of violence or aggression in inpatient settings across an NHS Mental Health Trust
ethnicity was a primary hypothesis?	Yes
The cohort was recruited in an acceptable way	Yes - We analysed incidents occurring in all inpatient settings across a South London NHS Mental Health Trust. We extracted incidents of violence or aggression from the Trust's incident reporting system, occurring between 1 April 2017 and 31 March 2020. We looked at four types of restrictive practice, physical restraint (where prone position was not used during the physical restraint), seclusion, prone restraint, and rapid tranquilization
The exposure was accurately measured	Yes – objective measurement of recorded incidents
The outcome was accurately measured	Yes – as above
Have the authors identified all important confounding factors?	Yes - Gender, Age, Diagnosis and SES as risk factors as well as Ethnicity - primary diagnosis of psychosis; demographic factors, gender, age group, and IMD rank (SES); and factors pertaining to the nature of the incident, which were staff rated incident severity and incident type. The second adjusted analysis controlled for all these variables plus mental health act section status. We used mental health act status at the time of the incident as a proxy for the level of risk the service user presents to self and other.
Have they taken account of the confounding factors in the design and/or analysis?	Yes - We performed multilevel logistic analyses to test the association between ethnic group and the odds of being subject to each type of restrictive practice. Since some service users are subject to restrictive practices on multiple occasions, we used multilevel modelling to account underlying patient heterogeneity. We first ran an unadjusted analysis in which the odds of restrictive practice were predicted based only on ethnic group. We then ran two adjusted analyses. The first adjusted analysis controlled for whether the service user had a primary diagnosis of psychosis; demographic factors gender, age group, and IMD rank; and factors pertaining to the nature of the incident, which were staff rated incident severity and incident type. The second adjusted analysis controlled for all these variables plus mental health act section status. We used mental health act status at the time of the incident as a proxy for the level of risk the service user presents to self and other.
Was the follow up of subjects complete enough?	Yes – type of study was over a course of time

Was the follow up of subjects long enough?	Yes – over period of time as above
Do you believe the results?	Yes – regression model used to consider confounding variables and large sample size of more than 10,000 participants

12	Lessons from an investigation of seclusion at an older adolescent inpatient unit
The study addresses a clearly focused issue	Yes – To determine the rate, indications and process for using seclusion for patients undergoing treatment at an older adolescent inpatient unit
ethnicity was a primary hypothesis?	No
The cohort was recruited in an acceptable way	Yes – recruited from a mental health facility in New Zealand.
The exposure was accurately measured	Yes – data was collected prospectively for 4 years, and also retrospectively for the 4 years prior. Forms that were filled out at times of seclusion were read and data coded from this. demographic data also recorded which is objective in nature.
The outcome was accurately measured	Yes – yes, objective measurements used as described above, along with the demographic data
Have the authors identified all important confounding factors?	Yes - they seem to have done so, considered ethnicity, diagnosis, age, gender, substance abuse diagnoses, psychosis and formal admission
Have they taken account of the confounding factors in the design and/or analysis?	Yes – Controlling for the confounding factors, they still found that Maori were twice as likely than New Zealand European patients to be secluded.
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of eight years
Was the follow up of subjects long enough?	Yes – over period of eight years as above
Do you believe the results?	Yes – large sample size and seems to be a notable effect size

13	Race, History of Abuse, and Homelessness Are Associated With Forced Medication Administration During Psychiatric Inpatient Care
The study addresses a clearly focused issue	Yes – examined sociodemographic and clinical variables associated with Forced Medication administration in psychiatric inpatients.
ethnicity was a primary hypothesis?	Yes
The cohort was recruited in an acceptable way	Yes – sample included data from over 50,000 patient admissions, strict inclusion and exclusion criteria, the latter of which included being under 18 years of age, presence of intellectual/developmental disability, dementia, or other neurological condition, or primary diagnosis of a nonpsychiatric medical condition or a substance-induced mood or psychotic disorder
The exposure was accurately measured	Yes – data was collected over the course of an 8 year period via electronic records that were made available
The outcome was accurately measured	Yes – yes, objective measurements used as described above, along with the demographic data
Have the authors identified all important confounding factors?	No – they don't seem to have done so, diagnosis type and socioeconomic status not considered
Have they taken account of the confounding factors in the design and/or analysis?	No – As above, they haven't necessarily considered certain factors in their analysis, and also used univariate analyses
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of eight years
Was the follow up of subjects long enough?	Yes – over period of eight years as above
Do you believe the results?	Can't tell – despite large sample size and a notable effect size, the lack of consideration of two confounders, and the use of univariate analyses, limits the ability to assert causation

14	Factors affecting the practice of seclusion in an acute mental health service in Southland, New Zealand
The study addresses a clearly focused issue	Yes – examined seclusion in New Zealand, considering the risk factors for this in acute general adult psychiatric units
ethnicity was a primary hypothesis?	No – lots of factors examined
The cohort was recruited in an acceptable way	Yes – sample taken from various hospital settings across the area outlined in the study
The exposure was accurately measured	Yes – objective measurement of seclusion episodes as well as demographic data
The outcome was accurately measured	Yes – yes, objective measurements used as described above, along with the demographic data
Have the authors identified all important confounding factors?	Yes – they don't seem to have done so, ethnicity, gender and age, socioeconomic deprivation, primary diagnosis, legal status on admission, referral pathway
Have they taken account of the confounding factors in the design and/or analysis?	No – As they only used univariate analyses to consider the interactions
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of one year
Was the follow up of subjects long enough?	Yes – over period of one year as above
Do you believe the results?	No – very small sample size and use of non-parametric univariate analyses make it hard to assert causation

15	Associations between psychiatric symptoms and seclusion use: Clinical implications for care planning
The study addresses a clearly focused issue	No – the aim is to investigate the association of a once-a-week risk assessment with seclusion. Also explores demographic data as part of this, but doesn't explicitly state this
ethnicity was a primary hypothesis?	No – as above, risk assessment main focus
The cohort was recruited in an acceptable way	Yes – sample taken from various hospital settings across the Netherlands
The exposure was accurately measured	Yes – objective measurement of seclusion episodes as well as demographic data
The outcome was accurately measured	Yes – yes, objective measurements used as described above, along with the demographic data
Have the authors identified all important confounding factors?	Yes
Have they taken account of the confounding factors in the design and/or analysis?	Yes – background characteristics, as well as the symptom and behavioural assessments, were fitted into a multilevel (mixed-model) logistic regression model
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of two years
Was the follow up of subjects long enough?	Yes – over period of two years as above
Do you believe the results?	Yes – very large sample size and narrow confidence intervals to suggest the results are precise

16	Risk factors for seclusion in children and adolescents inpatient psychiatry: The role of demographic characteristics, clinical severity, life experiences and diagnoses
The study addresses a clearly focused issue	Yes – To understand the risk factors for seclusion in a sample of children and adolescents admitted to an inpatient psychiatry unit looking at demographic, clinical severity, life experience, and diagnostic characteristics.
ethnicity was a primary hypothesis?	No – exploratory study that examined lots of different aspects of seclusion
The cohort was recruited in an acceptable way	Yes – unmatched case–control retrospective analysis of psychiatric records in a pediatric inpatient unit from December 2011 to December 2015. Cases were participants who experienced one or more events of locked door seclusion. Controls were patients who did not experience seclusion. The retrospective chart review was approved by the University's Institutional Review Board.
The exposure was accurately measured	Yes – objective measurement of seclusion and clear definition of this, as well as demographic data
The outcome was accurately measured	Yes – yes, objective measurements used as described above, along with the demographic data
Have the authors identified all important confounding factors?	Yes – contain a wealth of confounding factors including age, sex at birth, race, prior admission, history of physical abuse
Have they taken account of the confounding factors in the design and/or analysis?	Yes – use of a multiple regression along with the univariate analyses
Was the follow up of subjects complete enough?	Yes – type of study took a sample over a time period of four years
Was the follow up of subjects long enough?	Yes – over period of four years as above
Do you believe the results?	Yes – very large sample size and narrow confidence intervals to suggest the results are precise

Appendix 4: Chapter Four Information Sheet

Attitudes Towards Mental Illness

How do people in society view mental illness?

Some people within society experience mental illness. People have many different views towards mental illness and the aim of this study is to explore and understand these differing views.

What will taking part involve?

Participation is voluntary, and you can exit the study at any time. You will be asked to answer a series of questionnaires. The first will ask you a bit about yourself. You will then be presented some information about a mental health patient and asked a few questions about them. Finally, you will be asked some questions about mental health. The questionnaires should not take longer than 20 minutes to complete.

You will be able to withdraw your participation from the study at any point whilst you are completing it, if your wish to do so.

What are the advantages to taking part?

Understanding how people in society view mental illness is an important way of understanding and considering ways to improve the mental healthcare system. There are no 'right' or 'wrong' responses and the research aims to explore how and why differences might arise.

What are the disadvantages of taking part?

It is possible that you may find some of the questions raised a little upsetting or uncomfortable. Please take time to think carefully about whether it might be an upsetting or sensitive topic for you at the moment.

Who can take part?

We would like to have participation from any adult. Anyone aged 18 years or older in the general adult population and able to give informed consent is eligible to participate.

Who will know I have taken part in the study?

No one will know you have taken part in this study, because we will not ask for your name or any other personal ID during this questionnaire.

Your IP address will not be visible to or stored by the research team because an online survey platform is being used which receives and stores an IP address but enables this detail to be filtered out before it is transferred to the research team. As with any online related activity the risk of data breach is possible, but this risk is being minimized by using a platform that sits on an encrypted webpage. For further information about the online survey tool's security please see https://www.onlinesurveys.ac.uk/security/

What will happen to your data?

When you have clicked the submit button at the end of the questionnaire, it will be uploaded into a password protected database with a code number. The research team will not be able to see who it is from and for this reason it will not possible to withdraw the data at this point. Your data (research data) will be stored in a password-protected folder sitting on a restricted access server at the University under the terms of its data protection policy. Data is kept for a minimum of 7 years.

This questionnaire is for a Doctoral thesis project and the answers received from all participants will be combined in a password protected database ready for analysis. The results will be written up as part of the thesis and may be used in academic publications and presentations. The overall anonymised data from this study may be shared for use in future research and teaching (with research ethics approval).

The only personal data we will receive is your e-mail if you contact us to request further information from the researcher. This will be received and handled separately from your completed questionnaire and it will not be possible to link this to your data. Your e-mail address will only be kept as long as needed to resolve your query. It will then be destroyed. For further information about how the university processes personal data please see: https://www.nottingham.ac.uk/utilities/privacy.aspx/

Who will have access to your data?

The University of Nottingham is the data controller (legally responsible for data security) and the Supervisor of this study (named below) is the data custodian (manages access to the data) and as such will determine how your data is used in the study. Your research and personal data will be used for the purposes of the research only. Research is a task that we perform in the public interest.

Responsible members of the University of Nottingham may be given access to data for monitoring and/or audit of the study to ensure it is being carried out correctly.

If you have any questions or concerns about this project, please contact the researcher: **Max O'Collins, at: max.o'collins@nottingham.ac.uk**

or if you have any concerns about any aspect of this study please contact one of the Research Supervisors:

Dr Shihning Chou, at: shihning.chou@nottingham.ac.uk

Professor Tom Dening, at: tom.dening@nottingham.ac.uk

If you remain unhappy and wish to complain formally, you should then contact the **FMHS Research Ethics Committee Administrator E-mail**: FMHS-ResearchEthics@nottingham.ac.uk

Appendix 5: Chapter Four Consent Form

I confirm that I have read and understood the study information sheet

I agree to participate in questionnaires that relate to a patient and provide honest responses to the questions presented.

I confirm that I am aware of how I can contact the researcher if I have any questions about this study.

I am aware that I am able to withdraw participation from the study midway through the study without having to provide a reason.

I understand that my answers are anonymous.

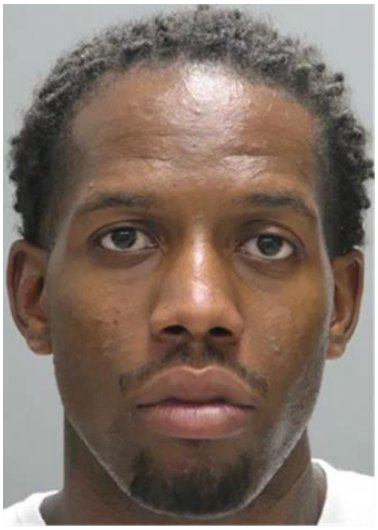
I understand that for anonymous questionnaire studies such as this one, that once I have completed the study and submitted my answers, the data cannot be withdrawn.

I am aware that non-identifiable data from this study which includes quotations might be used and published in academic research reports.

I understand the overall anonymized data from this study may be used in the future for research (with research ethics approval) and teaching purposes.

I confirm that I am 18 years old and/or older.

Appendix 6: Chapter Four Patient Photos and Descriptions



Mark is a 26-year-old black man. He was in hospital last year before being discharged last month. He has a diagnosis of schizophrenia and is living in the community

Sarah is 26-year-old mixed-race woman. She was in hospital last year before being discharged last month. She has a diagnosis of schizophrenia and is living in the community.

Mark is a 26-year-old white man. He was in hospital last year before being discharged last month. He has a diagnosis of schizophrenia and is living in the community.

Appendix 7: Chapter Four Experiences of Mental illness questionnaire

1. Do you currently, or have you ever, experienced a mental health problem?

2. Are you currently living with, or have you ever lived with, someone with a mental health problem?

3. Are you currently working, or have you ever worked, with someone with a mental health problem?

4. Do you currently, or have you ever, had a neighbour with a mental health problem?

5. Do you currently have, or have you ever had, a close friend with a mental health problem?

Response options were yes, no, don't know, prefer not to say

Appendix 8: Chapter Four Debrief Form

Many thanks for completing the questionnaire, this is the debrief page. Please ensure that you have read all of the information on this page before closing the window.

What if I would like some support?

We understand that some of the questions might have felt invasive, they may have even triggered unwanted thoughts and memories. If you require support you may find the following telephone numbers and webpages useful:

Samaritans - call for free on 116 123

NHS non-emergency on 111 or NHS emergency on 999

MIND – non-urgent mental health support - 0300 123 3393

Use the 'Shout' crisis text line by texting SHOUT to 85258

Use the following website to locate more local support channels: https://hubofhope.co.uk/

Also consider contacting your local GP

What was the aim of the research?

As identified in the information sheet the aim of the research was to explore attitudes that people have towards mental health, more specifically people who experience mental health difficulties. The research is exploring in particular whether the ethnicity of a patient might affect the attitudes one has towards someone experiencing mental health problems.

What if I would like more information or to be kept informed of the findings?

Please contact the researcher: Max O'Collins, via email: max.o'collins@nottingham.ac.uk

Many thanks again for taking part in the study

Appendix 9: Chapter Five Study Information Sheet

Perception Of Patient Behaviour By Staff In Inpatient Psychiatric Services

How do staff working in psychiatric hospitals perceive patient behaviours in psychiatric services?

Psychiatric staff are often exposed to patients who present with a range of different behaviours. Whilst working in these settings staff may differ in their response to these behaviours. This study aims to understand if, and why, these differences might arise.

What will taking part involve?

Participation is voluntary, and you can exit the study at any time. You will be asked to answer a series of questions via an online questionnaire. The questions will relate to a fictitious scenario that will be presented to the participant. You will be asked how each situation would make you feel and what you might do. The questionnaire should not take longer than 20 minutes to complete.

You will be able to withdraw your participation from the study if at any point whilst you are completing it, you wish to do so.

What are the advantages to taking part?

Understanding and responding appropriately to patients' behaviours is an important way to ensure effective and positive outcomes. The research aims to understand why differences might arise and what factors might affect this perception.

What are the disadvantages of taking part?

It is possible that you may find the issues raised in the scenarios presented as upsetting, or they might make you feel uncomfortable. Please take time to think carefully about whether it might be an upsetting or sensitive topic for you at the moment.

Who can take part?

We would like to have participation from all clinical members of staff at all levels who either currently work or have worked (in the last 12 months) in inpatient psychiatric settings, these include but are not restricted to: Nurses, Health Care Assistants, Psychiatrists, Occupational Therapists, Social Workers, Psychologists, Drug and Alcohol Workers, Psychotherapists, Sports and Fitness Practitioners

Who will know I have taken part in the study?

No one will know you have taken part in this study, because we will not ask for your name or any other personal ID during this questionnaire.

Your IP address will not be visible to or stored by the research team because an online survey platform is being used which receives and stores an IP address but enables this detail to be filtered out before it is transferred to the research team. As with any online related activity the risk of data breach is possible, but this risk is being minimized by using a platform that sits on an encrypted webpage. For further information about the online survey tool's security please see https://www.onlinesurveys.ac.uk/security/

What will happen to your data?

When you have clicked the submit button at the end of the questionnaire, it will be uploaded into a password protected database with a code number. The research team will not be able to see who it is from and for this reason it will not possible to withdraw the data at this point. Your data (research data) will be stored in a password-protected folder sitting on a restricted access server at the University under the terms of its data protection policy. Data is kept for a minimum of 7 years.

This questionnaire is for a Doctoral thesis project and the answers received from all participants will be combined in a password protected database ready for analysis. The results will be written up as part of the thesis and may be used in academic publications and presentations. The overall anonymised data from this study may be shared for use in future research and teaching (with research ethics approval).

The only personal data we will receive is your e-mail if you contact us to request further information from the reseacher. This will be received and handled separately from your completed questionnaire and it will not be possible to link this to your data. Your e-mail address will only be kept as long as needed to resolve your query. It will then be destroyed. For further information about how the university processes personal data please see: https://www.nottingham.ac.uk/utilities/privacy.aspx/

Who will have access to your data?

The University of Nottingham is the data controller (legally responsible for data security) and the Supervisor of this study (named below) is the data custodian (manages access to the data) and as such will determine how your data is used in the study. Your research and personal data will be used for the purposes of the research only. Research is a task that we perform in the public interest.

Responsible members of the University of Nottingham may be given access to data for monitoring and/or audit of the study to ensure it is being carried out correctly.

If you have any questions or concerns about this project, please contact the researcher: **Max O'Collins, at: max.o'collins@nottingham.ac.uk**

or if you have any concerns about any aspect of this study please contact the Research Supervisor: **Dr Shihning Chou, at: shihning.chou@nottingham.ac.uk**

If you remain unhappy and wish to complain formally, you should then contact the **FMHS Research Ethics Committee Administrator E-mail**: FMHS-ResearchEthics@nottingham.ac.uk

Appendix 10: Chapter Five Consent Form

I confirm that I have read and understood the Study Information sheet.

I confirm that I have worked (within the last year) or currently work in an inpatient psychiatric setting.

I agree to participate in questionnaires that relate to patient behaviours and state what I might honestly do in such a scenario.

I confirm that I am aware of how I can contact the researcher if I have any questions about this study.

I am aware that I am able to withdraw participation from the study midway through the study without having to provide a reason.

I understand that my answers are anonymous.

I understand that for anonymous questionnaire studies such as this one, that once I have completed the study and submitted my answers, the data cannot be withdrawn.

I am aware that non-identifiable data from this study which includes quotations might be used and published in academic research reports.

I understand the overall anonymized data from this study may be used in the future for research (with research ethics approval) and teaching purposes.

I confirm that I am 18 years old and/or older.

Appendix 11: Chapter Five Patient Photos and Description

The patient you encounter is a male who is 23 years old. He is white and has a diagnosis of paranoid schizophrenia. He is 6-foot-tall and weighs 80kg. He has a history of violence. Below is a picture of the patient

The patient you encounter is a male who is 23 years old. He is black and has a diagnosis of paranoid schizophrenia. He is 6-foot-tall and weighs 80kg. He has a history of violence. Below is a picture of the patient

Appendix 12: Chapter Five Description of the ward

You will be presented with several fictitious scenarios that relate to an interaction with a patient. Imagine that each scenario has occurred on a general inpatient psychiatric ward that you are working on (as pictured below). In each scenario you will be asked several questions about how you might feel and what you might do. Please be open and honest with your responses. There are no correct or incorrect responses.

Appendix 13: Chapter Five Scenarios

The service user is raising their voice towards you. He is sitting on the chair looking at the TV and you are next to the table. It is unclear why he is doing so, however he is saying, ‘the staff are all shit here. You’re shit and I hate being here.’

The service user is shouting at you. You are standing at the table and he is next to the TV. It is unclear why he is shouting but he has his fists clenched. He is saying that he is going to, ‘punch your fucking head in.’

The service user is running towards you. He is shouting and swearing at you saying, 'I'm going to smash your fucking face in,' he has his fists clenched and raised and is attempting to punch you.

Each scenario description was accompanied by a picture of the ward which was placed adjacent to a picture of the patient.

Appendix 14: Chapter Five Debrief Form

Many thanks for completing the questionnaire, this is the debrief page. Please ensure that you have read all of the information on this page before closing the window.

What if I would like some support?

We understand that some of the scenarios might have been unpleasant to imagine, and they may have even triggered memories of past events. If you require support you may find the following telephone numbers and webpages useful:

Samaritans - call for free on 116 123

NHS non-emergency on 111 or NHS emergency on 999

MIND – non-urgent mental health support - 0300 123 3393

Use the 'Shout' crisis text line by texting SHOUT to 85258

Use the following website to locate more local support channels: https://hubofhope.co.uk/

Also consider contacting your local GP

What was the aim of the research?

As identified in the information sheet the aim of the research was to explore the factors that affect threat perception in inpatient psychiatric settings. The research is exploring if the race of a patient might be associated with how threatening staff perceive patient behaviour.

What if I would like more information or to be kept informed of the findings?

Please contact the researcher: Max O'Collins, via email: max.o'collins@nottingham.ac.uk

Many thanks again for taking part in the study