INAPPROPRIATE SEXUAL BEHAVIOUR IN SECURE PSYCHIATRIC SERVICES: AN EVALUATION OF ST ANDREW'S SEXUALISED BEHAVIOUR ASSESSMENT (SASBA).

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Abstract

Incidents of unwanted sexual behaviour are common on mental health wards in England and Wales (Care Commission, 2018). This thesis aims to evaluate the utility of using St Andrew's Sexualised Behaviour Assessment Scale (SASBA; Knight et al., 2008) for detecting sexual inappropriateness with mental health patients in forensic psychiatric settings. SASBA encourages continuous observation and recording of incidents of Inappropriate Sexual Behaviour (ISB), although it was initially designed for patients in neurorehabilitation settings. Chapter *I* introduces the challenges associated with measuring and defining sexual incidents. Chapter *II* provides a systematic review comparing SASBA and the few alternative behavioural tools. Chapters *III* and *IV* contain retrospective cohort studies that examine SASBA data in a mixed diagnosis mental health sample (n=137) and a psychosis subsample (n=72). Both samples included patients with and without sexual offence histories, providing the added opportunity to test for differences between sub-groups. The prevalence of ISB within groups was investigated and determined how monitoring should be targeted. Predictive factors for ISB behaviours in both studies were identified, and regression models were produced. The results suggested that SASBA is useful at detecting ISB in mental health samples, but is more relevant to sexually disinhibited psychotic patients than predatory sexual offenders. Chapter *VI* provides a summary of each section and a synthesis of the overall findings. Recommendations for future use and the limitations of retrospective data are also discussed.

Preface

Chapter I: Introduction

The opening chapter introduces Inappropriate Sexual Behaviour (ISB) and the tool being evaluated herewith; St Andrew's Sexualised Behaviour Scale (SASBA; Knight et al., 2008). The challenges clinicians face when balancing sexual needs and sexual risks in forensic psychiatric samples are described, along with the aims and objectives of the ensuing chapters.

Chapter II: Systematic Review

The second chapter provides a systematic review of six electronic databases. This identified three existing instruments that measure ISB in the context of mental illness (including SASBA).

Chapter III: SASBA Critique

A detailed and descriptive critique of SASBA is presented in chapter *III*.

Chapter IV: Primary Study

This retrospective cohort study measured ISB using SASBA within secure psychiatric services while comparing patients with and without prior sexual offences.

Chapter V: Study II- Follow-up Study

A second retrospective cohort study is described in chapter *V*. This study measured ISB and psychosis within secure psychiatric services.

Chapter VI: Discussion

Finally, chapter *VI* presents the findings and implications of this research, along with recommendations for future research and practice.

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Chapter I. General Introduction

In 2017, the Care Quality Commission (CQC) investigated sexual safety on NHS trust mental health wards in England. After reviewing approximately 60,000 incident reports from the NHS National Reporting and Learning System (which occurred between April and June of that year), 1120 sexual incidents involving patients, staff and visitors were identified. These incidents included nakedness or exposure, sexual assault, verbal abuse (using sexual language), sexual harassment, inappropriate materials or use of IT, and alleged rape. In 95% of cases, the perpetrator was a patient. This report was not restricted to forensic psychiatric settings and included mixed-gender and single-gender inpatient services (CQC, 2018).

The findings of the report highlighted differences in recording practices across wards and services, accusing some of 'masking' the true extent of the problem. Furthermore, staff within these services had often become 'desensitised' to sexual incidents and in some areas were regularly discouraged from reporting these. On occasions when these incidents were reported by staff, liaison and cooperation between mental health services and police in the handling of sexual incidents was ineffective in practice (CQC, 2018).

One potential barrier to clinicians effectively recording and reporting sexual incidents is the lack of clarity regarding definitions of these behaviours. The sexual incidents detailed within the CQC report were unwanted sexual behaviours rather than consensual, but these incidents varied somewhat. Indeed, within society, sexual behaviours are diverse and may be context or culturally dependent, so it is unsurprising that behavioural definitions within institutions are also varied. A detailed review of these competing definitions has been provided by Johnston et al., (2006), see chapter

III for further details. Some examples of competing definitions mentioned in the review include:

- Challenging sexual behaviour
- Sexual disinhibition
- Hypersexuality
- Sexually intrusive behaviour
- Inappropriate sexual expression
- Sexually aggressive behaviours
- Sexually aberrant behaviours

In contrast, the law offers much clearer behavioural definitions, but not all sexual incidents within institutions would be considered illegal, and those that are, do not always result in convictions. Research has demonstrated lower rates of prosecutions for behaviours that constitute sexual offences for those with mental illness, particularly those with schizophrenia and schizoaffective disorders (Novak et al., 2007). Furthermore, it may not always be in the public interest to report the more common sexual incidents that occur within institutions to the police, especially when the perpetrator is mentally ill and is already locked up, therefore avoiding legal classifications and convictions. Regardless of whether incidents are severe enough to report to the police, the CQC has highlighted how the process of reporting and learning from sexual incidents needs to be improved (CQC, 2018).

A clear and consistent definition might go some way to improving general recording and monitoring. The term Inappropriate Sexual Behaviour (ISB) is favoured within the present thesis because the definition is broad enough to include most of the terms already in existence (e.g. Sexual Disinhibition, Challenging Sexual Behaviour etc.) as well as criminal behaviours. This definition also considers context. ISB is defined as "a

verbal or physical act of an explicit or perceived sexual nature which is unacceptable within the social context in which it is carried out" (Johnson, Knight, & Alderman, 2006, pg. 688). This term does not frequently appear within the existing literature (as will be discussed in chapter *III*); nevertheless, it will be used to describe research where the original categories meet the definition of ISB. It is worth pointing out at this stage that ISB is being used as an 'umbrella term' for different types of institutional sexual behaviour. ISB is not a recognised risk factor for sexual recidivism. With individual cases, it could be argued that the presence of ISB is a personal risk factor for future offending, for example, if the behaviour parallels previous offending. However, as a general concept, there is no longitudinal evidence to suggest that ISB within institutions increases the risk of sexual offending on discharge.

It is also important to recognise that individuals have sexual needs. When someone is in hospital or if they are mentally ill, it does not mean that they lose their sexual interests and urges. However, some patients may behave in ways that are not socially acceptable within the given context. These behaviours need to be monitored and evaluated appropriately, regardless of whether someone has an offending history - at the same time, ensuring that patients are not restricted unnecessarily. In addition to the challenge of recording ISB, staff in forensic psychiatric institutions are often trying to balance sexual risks and sexual needs in a diverse group of patients. Forensic psychiatric wards can consist of a wide range of mental health diagnoses defined within the International Disease Classification -11 (ICD-11; World Health Organisation [WHO]) including; personality disorders, schizophrenia, and paraphilias. In many cases, patients may have co-morbid drug and alcohol problems and learning disabilities. All of these diagnoses can affect the patient's sexual needs, risks, and in some cases, their capacity to make informed decisions about their sexuality. As part of this service evaluation, this thesis also explores whether diagnoses is a predictive factor for ISB.

A further challenge concerns how patients differ in their sexual risk histories. Within forensic psychiatric settings, convicted sexual offenders are frequently mixed with patients who have no sexual risk histories. Interestingly, a previous study identified how the majority of ISB (e.g. making inappropriate comments to female staff) were committed by a third category of patients, "those detained under mental health legislation who have some record of sexual offending behaviour regardless of whether they have been charged or not" (Hughes & Hebb, 2005 p.95). It is not surprising that there are patients without sexual convictions who engage in ISB as there are significant challenges in measuring the prevalence of sexual offending in the general population, for reasons such as victims not coming forward, and the idiosyncrasies of crime recording and prosecution practices (Crown Prosecution Service, 2018). This thesis compares mental health patients with no history of offending, mental health patients with previous sexual offending convictions, and mental health patients who have a prior history of ISB or allegations but no convictions.

Even within non-forensic settings, psychiatric institutions have a history of being restrictive regarding sexual matters. In the 19th Century, sex was considered a causal factor in mental illness, resulting in the separation of males and females to prevent the spread of defective genes. Mixed psychiatric wards were only reintroduced in the mid-20th Century alongside improvements in patients' rights. Secure psychiatric services have tended to remain segregated to protect vulnerable women from abusive patients (particularly from convicted sexual offenders), even though homosexual relationships can occur on same-sex wards (Taylor & Swan, 1999).

Research indicates that the United Kingdom (UK) is the most censorious of sexual expression within European forensic psychiatric institutions (Tiwana, McDonald, & Völlm, 2016). Some possible reasons why sexuality was overlooked by staff in secure

settings include risk of pregnancy in heterosexual relationships, the risk of non-consensual sexual activities, risk of staff-patient relations, staff prejudice towards sexual relationships, and a lack of staff training and guidance (Davidson, 1999).

More recently, clinicians have begun to consider the benefits of addressing sexual needs in psychiatric samples. Research has found that promoting sexual relationships supports mental health recovery. In contrast, restrictions (e.g. preventing sexual contact or development of intimate relationships) can have adverse effects (Brown, Reavy, Kanyeredzi, & Batty 2014). Sexual expression is not only crucial for general patients but also for sexual offenders. The Good Lives Model (GLM; Ward & Brown, 2004, Ward & Marshall, 2004) suggests that sexual offending occurs because offenders do not have the skills or means to achieve their desires in prosocial ways. On this basis, promoting healthy and safe sexual relationships and expression within institutions may reduce future risks.

Staff within psychiatric institutions need to adequately assess current risks to reduce ISB and to promote safe sexual relationships. Most often, clinicians rely on Structured Professional Judgement (SPJ) risk assessment tools (Tully, Chou, & Brown, 2013) or psychometric measures (e.g. Multiphasic Sex Inventory; Nichols & Molinder, 1984). However, clinicians should not overlook patients' current behaviour. For convicted sexual offenders clinicians often look for evidence of 'offence paralleling behaviours' (Jones, 1997; Daffern et al., 2007; Daffern, Jones, & Shine, 2010) and 'offence analogues behaviours' (Gordon & Wong, 2010) which were related to patients' previous offending.

The concept of Offence Paralleling Behaviours (OPBs) originated due to the complexity of assessing current offending behaviour within restricted environments (Jones, 1997). The original definition was proposed by Jones (2004):

> "Any form of offence related behavioural (or fantasised behaviour) pattern that emerges at any point before or after an offence. It does not have to result in an offence; it simply needs to resemble in some significant aspect, the sequence of behaviours leading up to the offence" (p.38).

The definition of OPBs was re-defined a decade later by Daffern et al. (2007):

> "A behavioural sequence incorporating overt behaviours (that may be muted by environmental factors), appraisals, expectations, beliefs, attitudes, affects, goals, and behavioural scripts, all of which may be influenced by the patient's mental disorder that is functionally similar to behavioural sequences involved in previous criminal acts" (p. 267).

OPBs refers to patterns of behaviour a person displays that are not typographically similar but functionally similar to their previous offending. However, the concept has been criticised for being too broad and for increasing the likelihood of false positives (e.g. viewing offenders as riskier) when misapplied (see Daffern et al., 2010). An alternative way of assessing current risk is to monitor Offence Analogue Behaviours or OABs. Gordon and Wong (2010) provided this definition, "OAB is used to describe the individual's specific behavioural manifestations that are linked to his or her criminogenic needs as they manifest within a controlled or custodial environment" (p.172). Criminogenic needs are dynamic risk factors (changeable) that are associated with re-offending within the Risk-Need-Responsivity Framework (Andrews & Bonta, 2003).

Both OPBs and OABs are highly individualised and often include covert behaviours. The risks of sex offenders with paedophilic interests are inherently lessened within the hospital environment due to lack of access to children. The chances of subverting security and gaining access to a child unsupervised are slim. It is more probable that the offender would have to find other ways to satisfy their paedophilic interests and urges. Gordon and Wong (2010) describe an example OAB of a sexual offender with the *modus operandi* of grooming children online. In restricted environments there is no opportunity to groom children, so the sex offender resorts to using magazine images for masturbation purposes. These types of behaviours can be very tough to observe, especially when offenders have been hospitalised for some time and they are motivated to evade detection.

The introduction of OPBs and OABs appears to have changed the way we view institutions and has highlighted the necessity of incorporating current behaviours into risk formulations and risk assessments. However, if clinicians are sticking rigidly to OPB and OAB formulations, it is a prerequisite that patients have previous sexual convictions. This research is not focusing on OPBs and AOBs. Instead, it is focusing on the more overt ISB that mental health patient's display in forensic institutions, regardless of past criminal history.

The primary aim of this study was to evaluate the utility of St Andrew's Sexualised Behaviour Assessment Scale (SASBA; Knight et al., 2008) with mental health patients in forensic psychiatric settings. The SASBA tool was originally designed and piloted within neurorehabilitation settings but was used for some years across mental health wards within the same healthcare charity. The SASBA tool had been used routinely across several wards for all patients, irrespective of diagnoses or forensic history, but the data had never been collated or analysed. SASBA is a standardised recording

instrument for the measurement of ISB within institutions. The assessment allows continuous observation of four categories of ISB: verbal comments (VC), exposure (E), non-contact behaviours (NC), and touching others (TO). Each category has four levels of severity (1-4). For example, if we consider the different levels of the touching other category. The less severe TO1 refers to - Touches for a prolonged period (excess of 2 seconds). This behaviour seems less likely to be criminalised. The more severe T04 refers to - Touching others groin, female breasts, or rubbing own genitals or female's breasts against another person. These behaviours seem more likely to be criminalised (see Appendix B for full categories). The tool allows care staff to capture and record observed antecedents, to assign observed behaviours to one of the pre-defined behavioural categories, and it also captures the observed consequences (see Appendix D).

The authors of SASBA were clear during development that the tool was designed to capture overt sexual behaviours as opposed to covert or predatory sexual behaviours. This thesis is interested in whether general psychiatric patients display ISB recorded using SASBA, as these behaviours have previously been demonstrated by patients with acquired brain injury and neurological conditions. If ISB is common, then SASBA might be a useful way of monitoring and reporting behaviours for similar reasons as was found in neurorehabilitation settings; for example, allowing more objective and consistent recording of behaviour and providing clarity for staff regarding the severity of behaviours [Knight et al., 2008). Even if there were high rates of ISB in the group of patients with previous sexual offences, this research does not explore the relationship between SASBA recordings and future offending, so the presence of SASBA recordings alone is not considered to be a risk factor for sexual recidivism. Furthermore, as will be discussed in Chapter *IV* there is already an abundance of widely used instruments that measure the risk of sexual recidivism, which are preferable to SASBA (e.g. Structural

Professional Judgement Tools). Irrespective, it would be useful to know with whom the SASBA tool should be used.

Even though SASBA was developed within a population affected by medical conditions (e.g. progressive and acquired neurological conditions) SASBA as a tool applies a simple theoretical model to these patient behaviours; The Antecedent- Behaviour-Consequence (A-B-C) Model. This model was developed from the early work of behaviourists such as John Watson (1920) and Edward Thorndike (1932). However, it was most closely related to B.F. Skinner's three-step model for shaping behaviour; the idea that a stimulus leads to a response, which results in reinforcement (Skinner, 1938). SASBA used in the way Knight et al. (2008) intended does not consider the biological influences (e.g. mental health symptoms) or cognitive processes (e.g. sexual beliefs and attitudes) which may contribute to the presence of ISB. This criticism of SASBA does not apply directly to the primary or follow-up studies because neither use SASBA in its traditional form and only capture the frequencies of observed behaviours. However, some factors are explored which might contribute towards increasing our theoretical understanding of ISB.

The overall aim is to evaluate the suitability of SASBA for mental health patients in forensic psychiatric settings by exploring frequencies of these observed behaviours and critiquing the tool. To achieve this aim, the following objectives were identified for the subsequent chapters:

Systematic Review (Chapter *II*)

1. Identify research that has measured sexual behaviours (that meet the definition of ISB) in general mental health patients and/psychiatric institutions.

2. Identify specific instruments that measure sexual behaviours (that meet the definition of ISB) in these settings.

3. Describe the psychometric properties and applicability of these tools.

SASBA Critique (Chapter *III*)

4. To describe and evaluate the development and piloting of the original SASBA tool.

Primary Study (Chapter *IV*)

5. To measure the frequencies of SASBA recordings with a male psychiatric sample.

6. To examine the relationship between patient groups (e.g. sexual offence group, general patients, and those with a previous history of ISB) and presence of SASBA recordings.

7. To examine the relationship between the sub-categories of SASBA.

8. To explore factors associated with the presence of SASBA recordings.

9. To test for group differences between non-violent SASBA recordings and violent SASBA recordings.

10. To comment on the suitability of SASBA within this population.

Follow-Up Study (Chapter *V*)

11. To measure the frequencies of SASBA recordings within a male sample of patients with a diagnosis of psychotic illness.

12. To examine the relationship between patient groups (e.g. sexual offence group, general patients, and those with a previous history of ISB) and presence of SASBA recordings in those with psychotic illness.

13. To examine the relationship between the sub-categories of SASBA.

14. To explore factors associated with the presence of SASBA recordings in those with psychotic illness.

15. To test for group differences between non-violent SASBA recordings and violent SASBA recordings.

Discussion (Chapter *VI*)

16. To provide a summary of the findings from preceding chapters.

17. To discuss the limitations of the study.

18. Conclusion and Final Recommendations.

Chapter II. Systematic Review

Instruments Measuring Inappropriate Sexual Behaviour (ISB) within Psychiatric Settings

Abstract

Clinicians within psychiatric institutions are often required to make balanced decisions about patients' sexual expression and sexual risk. Decision -making can be problematic when patients display Inappropriate Sexual Behaviours (ISB). The main aim of this systematic review was to identify and evaluate instruments that measure these behaviours within psychiatric institutions.

Method: A systematic search of six electronic databases was conducted. Four studies were identified, plus an additional one from referencing searching. The final five studies were assessed for quality using The Quality Assessment Tool for Quantitative Studies (Effective Public Health Practice Project [EPHPP], 1998a); identifying weak and moderate methodology.

Results: The studies identified three measures of ISB; two developed for general psychiatric patients and one for neuropsychiatric patients. Prevalence of ISB varied between 11% and 64% across studies employing different methods and psychiatric samples.

Conclusion: The review identified few published studies and even fewer measurement tools. Further higher quality research is required to measure the prevalence of ISB and to identify specific factors that may contribute to these behaviours. Ideally, future research would also examine if there were a link between ISB within institutions and the risk of future sexual offending.

Introduction

Background

This systematic review sought to identify tools that measure Inappropriate Sexual Behaviour (ISB) within psychiatric institutions, specifically with patients who had mental health conditions. As discussed in the opening chapter, the term ISB is preferred throughout this thesis, because it is broad and applies to a range of different behaviours (e.g. challenging sexual behaviours & sexual aggression). ISB is defined as "a verbal or physical act of an explicit or perceived sexual nature which is unacceptable within the social context in which it is carried out" (Johnson, Knight, & Alderman, 2006, pg. 688).

In addition, this review included all inpatient psychiatric settings housing mentally ill patients, despite the primary and follow-up study being interested in only forensic settings. The reason is that forensic psychiatric wards appear to focus more on using sexual risk assessment tools with convicted sexual offenders (which focus on past offending incidents) whereas this focus was on identifying instruments that measure current behaviours rather than risk assessment tools, which is also why tools such as the Risk Matrix 200/Sexual (RM2000-S; Thornton et al., 2003) were excluded.

Sexual behaviour within psychiatric institutions is a complex area of study. Historically, within these institutions, there has been a tendency to focus on sexual behaviour exclusively as a problem of risk, rather than seeing this as a type of sexual expression that may be influenced by factors such as mental illness, medication or environment. Masturbation, displays of affection and exhibitionism, amongst other behaviours, were found to be common forms of sexual expression in patients with psychosis, in a London acute rehabilitation unit. These behaviours were managed by frontline nursing staff, but their approaches differed according to the practitioner's attitudes and beliefs (McCann, 2000). However, a person's sexual expression should

not be restricted based on the views of the individual's practitioner. It is the patient's human right to sexual health. Hunt (2004) the United Nation's Rapporteur on the Right to Health reported: "Sexual health requires a positive and respectful approach to sexuality and relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence" (cited in Corrêa, Petchesky & Parker, 2008 pg. 212). Regrettably, as a country, we have a reputation for being 'prudish' in sexual matters. The UK was the most prohibiting of sexual expression across 13 other forensic psychiatric institutions across Europe. This finding was due to risk aversion, and lack of consideration of patients' sexual needs, especially with mentally ill patients who were also offenders (Tiwana, McDonald, & Völlm, 2016).

Balancing patients' sexual needs and sexual risk seems tougher in forensic mental health units compared with non-forensic mental health units. This is because patients often present with higher sexual risks (e.g. they may already be convicted sex offenders). However, these restrictive environments also offer opportunities to re-educate and modify ISB. This positive approach to sexuality fits within existing strength-based approaches to offender rehabilitation that have already been adopted in the UK, such as the Good Lives Model (GLM: Ward & Brown, 2004, Ward & Marshall, 2004). The GLM highlights the importance of 'relatedness' to others, which includes intimate, romantic, and family relationships. The GLM assumes that offending behaviours, even sexual offending behaviours, result from a desire to achieve a goal or 'primary good', in the absence of skills or how to acquire these pro-socially.

These 'primary goods' are relevant to all humans, not just offenders. Therefore, the GLM applies to mental health patients who present with ISB within psychiatric institutions, but do not have any convictions. Furthermore, promoting sexual and relationship well-being has already been shown to support the recovery process in

medium secure patients, whereas restricting access (e.g. preventing sexual contact with a long-term partner or developing new relationships with peers) can have adverse effects on both relationships and recovery. These artificial and restrictive environments produce a situational Psychologically Modified Experience (PME) as well as forcing individuals to form new ways of self-relation (Brown, Reavy, Kanyeredzi, & Batty 2014).

In the UK, the absence of a national policy regarding sexuality means decisions are made locally by clinicians according to the needs of individual patients (Tiwana et al., 2016). While some guidance in the form of national policy would be welcomed, the current approach fits with existing principles of healthcare. For example, The Mental Health Act Code of Practice 1983 (Revised 2015) aims to increase individualised decisions and to reduce restrictive practices and blanket restrictions on patients. Blanket restrictions are defined as; "Rules or policies that restrict a patient's liberty and other rights which are routinely applied to all patients, or within a service, without individual risk assessment to justify their application" (Department of Health and Social Care [2015], pg. 64).

Under 'least restrictive' policies, clinicians must protect the patient's access to family and social life, and they should not restrict the patient from forming or continuing a sexual relationship unless it can be proved 'necessary' and 'proportionate' to their current level of risk (Local Government Association, 2016). In the case of convicted sexual offenders, it is often necessary to restrict patients to protect the public from harm. In many cases, these individuals will already have pre-existing court orders, e.g. Sexual Harm Prevention Orders (SHPO). It is also easier to predict the risk of re-offending, but it is not possible to predict who is going to offend in the first place.

Clinicians may fear that some patients without convictions will go on to sexually offend. For psychiatric patients who display ISB without previous sexual convictions, it can be challenging to quantify the level of risk. The primary study (chapter *IV*) has clearly shown that individuals who were sexually inappropriate in the past are five times more likely to display current ISB. We do not know whether these individuals will go on to offend in the community.

Typically, there is a wide variety of diagnostic presentations within psychiatric units. Patients predominately have mental health diagnoses classified within the International Disease Classification- 11 (ICD-11; World Health Organisation [WHO], 2018) or the Diagnostic and Statistical Manual of Mental Disorders -5 (DSM-5; American Psychiatric Association [APA] 2013). These both classify conditions into mood disorders; schizophrenia or psychotic disorders; and anxiety or fear-related disorders. However, patients may also present with co-morbid behavioural or neurodevelopmental disorders (e.g. personality disorders; learning disabilities; autism spectrum disorder; and neurocognitive disorders). Furthermore, some patients have diagnoses relevant to their sexuality, such as 'paraphilias' (e.g. exhibitionism and paedophilia). These varying presentations further complicate risk assessment and may affect the patient's capacity to make informed decisions concerning sexuality and relationships.

It is also plausible that some patients who display ISB could be classed as 'hypersexual' individuals, either as a feature of an existing diagnosis (e.g. schizophrenia or mania) or as a distinct diagnosis, such as compulsive sexual behaviour disorder (CSBD). The diagnosis of CSBD was only recognised by the World Health Organisation in the most recent version of the ICD-11. CSBD is defined as:

> "A persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behaviour. Symptoms may include, repetitive

> sexual activities becoming a central focus of the person's life to the point of neglecting health and personal care or other interests, activities and responsibilities; numerous unsuccessful efforts to significantly reduce repetitive sexual behaviour; and continued repetitive sexual behaviour despite adverse consequences or deriving little or no satisfaction from it." (ICD-11, WHO, 2018, Compulsive sexual behaviour disorder [6C72], paragraph 1).

There is ongoing research and debate over the conceptualisation of the proposed diagnosis of 'Hypersexual Disorder (HD)', which was rejected for inclusion in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; APA, 2013). The main criticisms of HD were, a lack of existing research and queries over whether HD warrants a stand-alone diagnosis or is a symptom of another mental illness (Montgomery-Graham, 2017). The DSM-5 proposed criteria (before rejection) declared:

> "Patients meeting these criteria typically use sexual fantasies, urges, and behaviours to cope with dysphoric moods or anxiety. Patients meeting these criteria will have experienced adverse consequences and many unsuccessful attempts to control their sexual fantasies, urges, or behaviours" (Montgomery-Graham, 2017, pg. 1.)

There is an increasing number of instruments available to assess hypersexuality. These are predominately developed and used in community settings, for individuals undergoing treatment for sexual addiction. However, these measures do not appear to have been adopted within forensic psychiatric institutions. Tools including Hypersexual Disorder Screening Inventory [HDSI; Creeden, 2004); Hypersexual Behaviour Inventory (HBI; Reid et al., 2011), Sexual Compulsivity Scale (SCS; Kalichman et al., 2016), Sexual Addiction Screening Test (SAST; Parsons et al., 2008), and Compulsive

Sexual Behaviour Inventory (CSBI-22; Coleman et al., 2001) were all cited in one systematic review (Montgomery-Graham, 2017). Although much of the work on hypersexuality has focused on general population males, it appears to have some relevance to psychiatric institutions and the issue of ISB.

As indicated, determining whether detained individual patients pose a risk within intimate or sexual relationships is a complicated task. With convicted sex offenders, it can be difficult to distinguish between 'offence paralleling behaviours' (OPBs; Jones 2004; Daffern et al., 2007) and environmentally induced sexual behaviours. In recent years, there has been greater recognition that despite the constraints of institutions, some offenders often display sexual risk behaviours or at the very least, they continue to exhibit risk factors associated with their past offending. Offenders do not have to commit the same offence. They may display similar patterns of behaviour to their offence chain (Jones, 2004) including appraisals; beliefs; expectations; goals; behavioural scripts; and affects that are 'functionally' similar to previous offending (Daffern, 2007).

Identifying OPBs is likely to be easier in psychiatric hospitals due to increased observations and a higher staff to patient ratio as recommended by the Hurst Model (Hurst, 2003). It is important that clinicians monitor institutionalised behaviours which can be indicators of ongoing risk (e.g. risky thoughts, urges, feelings, and patterns of behaviour) while considering how the restricted environment may also be affecting the individual's sexuality and risk.

When it comes to assessing the risk of convicted sex offenders, assessment tools are readily available, including actuarial risk assessment tools (e.g. Static-99; Hanson & Thornton, 1999, 2000) and structured professional judgement tools (e.g. The Risk of

Sexual Violence Protocol [RSVP; Hart, Kropp, Laws, Klaver, Logan & Watt, 2003]). The actuarial tools look purely at static factors (e.g. age and number of convictions) whereas SPJs combine static and dynamic risk factors (e.g. sexual interests, distorted attitudes, self-management, and intimacy deficits) to provide assessments of overall risk (Beech, Fisher, & Thornton, 2003). A systematic review of risk assessment tools found that the actuarial and SPJ tools demonstrated at least moderate predictive accuracy in predicting sexual recidivism (Tully, Chou, & Browne, 2013). In addition to risk assessments, there are psychometric measures in existence to measure sexual attitudes (e.g. Questionnaire on Attitudes Consistent with Sexual Offences [QACSO; Broxholme & Lindsay 2003; Lindsay, Carson, & Whitfield, 2005]) and sexual interests (e.g. Multiphasic Sex Inventory [MSI; Nichols & Molinder, 1984]), as well as proxy measures of sexual arousal (e.g. Penile plethysmography [PPG]).

Within the literature, there appears to be more focus on risk assessments, assessments of cognitions and arousal in convicted sex offenders, rather than tools that measure overt sexual behaviours within institutions (for both convicted sexual offenders and general mental health patients). This systematic review seeks to identify tools and methods already being used to measure sexual behaviours that meet the definition of ISB provided by Johnson et al. (2006). These tools may prove useful when assessing mentally ill patients with previous sexual offences, but also with general patients for whom existing forensic assessments may not be relevant.

Aims and Objectives

This systematic review aimed to:

1. Identify research that has measured sexual behaviours (that meet the definition of ISB) in general mental health patients and/psychiatric institutions.

2. Identify specific instruments that measure sexual behaviours (that meet the definition of ISB) in these settings.

3. Describe the psychometric properties and applicability of these tools.

Method

Search Strategy – Literature Searched

Searching for peer-reviewed articles was conducted between 6th January 2019 using the following six databases: ASSIA, EMBASE, Medline, PsychINFO, Psycharticles, and SCOPUS. The presence of existing systematic reviews was also checked using the Cochrane Library and The Campbell Collection on 9th January 2019. Birmingham Ethesis and Nottingham Ethesis were searched for relevant unpublished research as well as systematic reviews on the 9th January 2019.

Search Strategy – Terms Searched

The following search terms were used for peer review articles (see Appendix A, for example search syntax):

- (mental illness/ mental disorder/ schizophrenia/ psychosis/ psychotic symptoms/ psychiatric)

  AND
- (assessment/ scale/ observation/ measure/ behaviour checklist/ behaviour recording)

  AND
- *(inappropriate sexual behaviour/sexual disinhibition/hypersexuality/sexually intrusive behaviour/sexually aggressive behaviour/sexually aberrant behaviour/ /ISB behaviour/sexually violent behaviour/sexually compulsive behaviour)

*These definitions were selected based on a review by Johnson, Knight, & Alderman, 2006) who identified overlapping and competing terms for these behaviours which fall under the category of ISB.

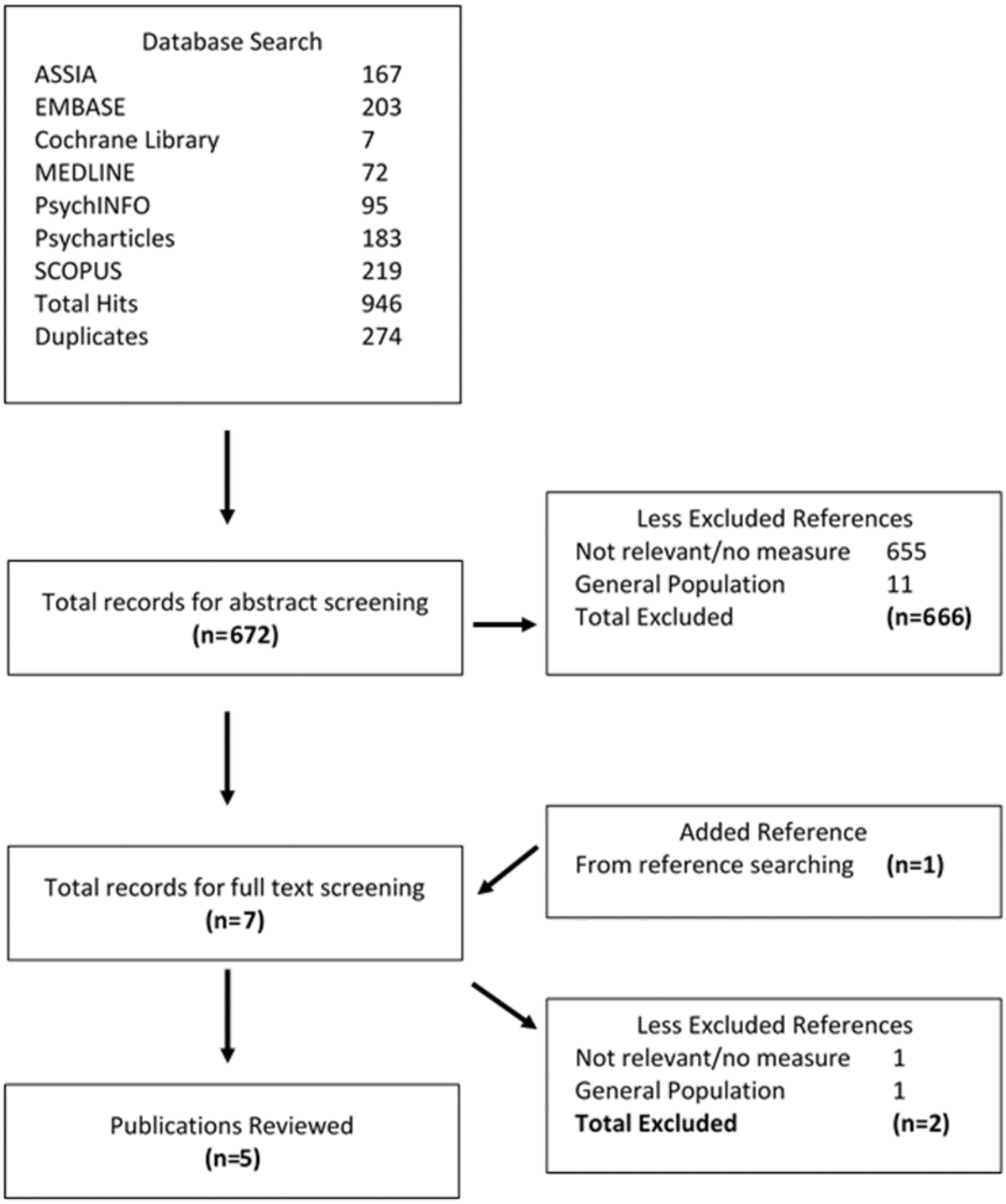


Fig. 1. Preferred Reporting Items for Systematic Meta Analyses (PRISMA) diagram.

Study Selection

Only publications which met the pre-defined inclusion/exclusion criteria were included for the final review. Inclusion criteria are outlined below:

- *Population:* Adult psychiatric inpatients with mental health conditions/or personality disorder.
- *Exposure:* Instruments measuring behaviours that would meet the criteria of ISB provided by Johnson et al., (2006).
- *Study type*: Observational designs; case-control, cross-sectional, cohort studies
- *Language:* No restriction
- *Date of publication:* No restrictions
- ***Exclusion:* General public population/ only neurological conditions/ only learning disability/developmental disability etc. Tools that measured cognitions or structured professional judgement tools.

**The aim of this systematic review was to identify tools that focus specifically on measuring institutional behaviours that meet the definition of ISB within inpatient settings. Therefore, tools measuring cognitions or risk factors were excluded. Furthermore, the review sought to identify tools being used with patients who have mental health conditions/and or personality disorders which are common in forensic mental health wards. Tools designed for other populations could be included as long as they had been used with general mental health patients within inpatient settings. Tools that were designed and implemented exclusively in neurorehabilitation setting would therefore not be included.

Results

Description of Studies

Overall, 946 publications were identified and screened for suitability (see Figure 1.). Firstly, 274 duplicate publications were removed using EndNote online and through hand searching. The abstracts and titles for the 672 remaining publications were then screened for suitability. Of these, 655 Publications were not relevant and did not include a relevant measure or method measuring ISB. A further 11 publications included a measure of ISB (typically hypersexuality), but these were developed for and used only within the general population. Only six studies were identified for full-text review. A further publication (paper 2) was identified for full-text review from references of papers 4 and 5. A further two papers were excluded during full-text review because on further reading; they were also not suitable (e.g. no measure of ISB and general population only). This left only five studies for full-text review.

Characteristics of Included Studies

From the initial database searches, two papers presented measures that had been specifically designed and used with a general mental health population; The Hypersexuality in Psychiatric Conditions Observer-Rated Scale (HIPCORS; Davidson, Cheung, & Jansen) and the Sexual Aggression Scale (Jones et al., 2007). A further two papers (Brewer, Pomroy, Wells, & Ratcliffe, 2016; & O'Shea et al., 2016) were identified, which assessed the predictive validity of risk assessment tools using a measure of Inappropriate Sexual Behaviour (ISB) in general mental health patients; the St Andrew's Sexualised Behaviour Scale (SASBA; Knight et al., 2008). Although the SASBA measure was designed for patients with acquired or progressive neurological disorders, the original validation paper was included in the final review on the basis that

it had been applied to general mental health patients in two studies. The studies are summarised in Table 1.

Quality of Included Studies

All publications were reviewed in two stages. Firstly, publications required a clear description of the psychiatric sample and the instrument used. All five of the publications met these criteria, so were subsequently assessed for quality, using a generic quality assessment (see table 2). The Quality Assessment Tool for Quantitative Studies (QATQS; EPHPP, 1998a) was used (see Appendix B).

Table 1.

Description of Included Studies

Paper	**Design**	**Global Score** (Reverse scoring)	**Participants**	**Setting**	**Aim of Paper**	**Reliability and Validity**
1.Davidson et al., (2017)	Cross-sectional	10/18	100 *Male (n=63)* *Female (n=37)*	Mental Health Unit *(Open and Intensive Care Unit)*	Develop and pilot new tool: Hypersexuality in Psychiatric Conditions Observer-Rated Scale (HIPCORS).	Internal Consistency, Test-retest Reliability, Inter-rater reliability, Face Validity, Content Validity.
2.Knight et al., (2009)	Cross-sectional	11/18	36 *Gender not specified*	Psychiatric Inpatient Services *(Progressive Neurological Conditions [PNC] and Acquired Brain Injury [ABI])*	Develop and pilot new tool: St Andrew's Sexualised Behaviour Assessment (SASBA).	Test-retest Reliability, Inter-rater Reliability, Face Validity, Construct Validity. Content Validity
3.Jones et al., (2007)	Cross-sectional	9/18	18 *Male only*	Psychiatric Inpatient Unit *(General Mental Health)*	Develop and pilot new tool: Sexual Aggression Scale	Not tested/reported

Table 1.

Continued

Paper	Design	Global Score (Reverse scoring)	Participants	Setting	Aim of Paper	Reliability and Validity
4.Brewer et al., (2016)	Cohort	11/18	29 *Male (n=15)* *Female (n=14)*	Secure Psychiatric Services *(Learning disability and co-morbid mental illness)*	To compare outcomes on risk assessment tools (The Short Dynamic Risk Scale [SDRS] & Short-Term Assessment of Risk and Treatability [START]) with inappropriate sexual behaviours using St Andrew's Sexualised Behaviour Assessment (SASBA).	See paper 2.
5. O'Shea et al., (2016)	Cohort	13/18	613 *Male (n=418)* *Female (n=195)*	Secure Psychiatric Hospital *(Mixed diagnosis, predominately mental health)*	To examine if the Historical Clinical Risk Assessment (HCR-20) could predict inappropriate sexual behaviours using St Andrew's Sexualised Behaviour Assessment (SASBA).	See paper 2.

Table 2.

Quality Assessment Tool for Quantitative Studies (QATQS)

	Paper 1	**Paper 2**	**Paper 3**	**Paper 4**	**Paper 5**
	Davidson et al., (2017)	Knight et al., (2008)	Jones et al., (2007)	Brewer et al., (2016)	O'Shea et al.,(2016)
Selection Bias	2	2	2	2	2
Study Design	3	3	3	2	2
Confounders	3	3	3	3	3
Blinding	3	2	2	3	1
Data Collection	1	1	3	1	1
Withdrawals/ Drop-Outs	2	2	2	2	2
Global Score	***14***	***13***	***15***	***13***	***11***
Global Score (reverse scoring, higher scores = better quality)	***10/18***	***11/18***	***9/18***	***11/18***	***13/18***
Global Rating	***Weak*** *(3 x weak ratings)*	***Weak*** *(2 x weak ratings)*	***Weak*** *(3 x weak ratings)*	***Weak*** *(2 x weak ratings)*	***Moderate*** *(1 x weak rating)*

The QATQS tool rates aspects of study design on a three-point scale (Strong = 1, Moderate = 2, Weak = 3) with higher scores representing weaker studies. No weak ratings would indicate that a paper is strong overall, whereas one weak rating would indicate a moderate paper, and two or more weak ratings would indicate a weak paper. All of the included items were evaluated according to the Quality Assessment Tool for Quantitative Studies Dictionary (EPHPP, 1998b). Table 2 includes the individual scores,

global score and global rating. A reversed global score was calculated for this systematic review. The maximum number of points which could be awarded is 18.

Findings of the Included Studies

Three of the five reviewed papers identified specific tools, which were used to measure types of ISB (see Table 1). All three of these papers developed and piloted their new tools within their respective settings. Descriptions of each tool and the pilot study findings are provided in Table 3. The remaining two studies used one of these tools, SASBA (Knight et al., 2008) in their studies, assessing the predictive validity of risk assessment tools in psychiatric settings, see Table 4.

Table 3.

Description of Tools and Pilot Results

	Paper 1	**Paper 2**	**Paper 3**
	Davidson et al.,(2017)	Knight et al., (2008)	Jones et al., (2007)
Tool	Hypersexuality in Psychiatric Conditions Observer-Rated Scale (HIPCORS).	St Andrew's Sexualised Behaviour Assessment (SASBA).	Sexual Aggression Scale (SAS).
Description	Measures 6 domains of Hypersexuality on a scale of 1- 3 (*mild, moderate, & high)*: • Sexually Disinhibited Language *(e.g. speech and multimedia).* • Sexually Disinhibited Behaviour *(e.g. physical /multimedia).*	Measures 4 categories of Inappropriate Sexual Behaviour (ISB) with 4 levels of severity (*mild to severe):* • Verbal Comments (VC) (*e.g. from mild personal comments ranging to explicit accounts of sexual intent/requests/ activity).*	Measures types of Sexual Behaviour on a scale of 1-4, mixed behaviour types: • Rating 1 *(e.g. verbally insulting sexual comments, pretends to be masturbating).* • Rating 2 (*e.g. removing clothes at inappropriate time, attempts or touches*

	• Sexual stimulation from visual cues (e.g. people pictures, media). • Complaints about hypersexual disorder (e.g. from professionals/family). • Socioeconomic loss due to hypersexual behaviour *(e.g. in work/relationships/ accommodation).* • Biological affects due to hyperarousal *(e.g. sleep problems/ physical injury to self or others).*	• Non-contact (NC) (e.g. *from blowing kisses and staring ranging to masturbating without exposing in a public place).* • Exposure (E) (*e.g. from appearing unaware of exposing genitals/buttocks to masturbating with genitals exposed in a public setting).* • Touching Others (TO) (*e.g. from stroking another person in excess of 2 seconds to touching other's groin/breasts etc.* Also measures antecedents and interventions following ISB behaviour.	*someone in sexual manner).* • Rating 4 (*e.g. forcibly grabs another person in sexual manner).* • Rating 5 (*e.g. forcibly coerces sex).*
Procedure	Assessment at regular intervals. With scoring of behaviour retrospectively.	Continuous measurement of behaviour. Monitoring period was 10 weeks.	Continuous measurement of behaviour. Average monitoring period was 90 days.
Prevalence (Pilot Study)	Number of patients by symptom severity: • None: 71% (*n*=77) • Mild: 11% (*n*=11) • Moderate: 10% (*n*=10) • High: 8% (*n*=8)	There were 151 ISB (SASBA) recordings : Number of patients with SASBA recordings: • PNC Ward: 64% (*n*=14) • ABI Ward: 42% (*n=6*	There were 57 sexual behaviours recorded using SAS. All sexual behaviours were committed by 11% *(n=2)* of sample.

Table 4.

Description of Predictive Studies and Results

	Paper 4	**Paper 5**
	Brewer et al., (2016)	O'Shea et al., (2016)
Tools	*Behaviour:* <u>St Andrew's Sexualised Behaviour Assessment (SASBA).</u> Overt Aggression Scale –Modified for Neurorehabilitation (OAS-MNR) *Risk:* The Short Dynamic Risk Scale (SDRS) Short-Term Assessment of Risk and Treatability (START)	*Behaviour:* <u>St Andrew's Sexualised Behaviour Assessment (SASBA).</u> Overt Aggression Scale –Modified for Neurorehabilitation (OAS-MNR) *Risk:* Historical Clinical Risk Assessment Tool (HCR-20).
Procedure	All participants were rated using SDRS and START assessments. Average severity weightings of behaviours (both aggression and ISB) were calculated for 3 weeks post-completion of the SDRS.	Routine HCR-20 assessment data was collected for all participants. Researchers blind to HCR-20 scores retrospectively rated ISB behaviour (from anonymised patient notes) for 3-month period following HCR-20 completion. SASBA categories were further classified into violent and non-violent ISB behaviours.
Prevalence	Not reported	There were 239 incidents of ISB over the 3-month period. 17% of all participants (*n*=104*)* engaged in ISB. 11% of all participants (*n*=65) had committed violent ISB behaviours. Of those who committed violent ISB behaviours, 99% (*n*=64) had also committed non- sexually violent behaviours.

Predictability	Moderate positive correlation between the 8 items of the SDRS and SASBA (r= 0.430, n=248, p=0.000). There were positive correlations between each individual item on SASBA (VC, NC, E, TO). Linear regression analysis, (F (1,246) =65.47, p<.001 with an R^2 of 0.291) revealed that sexualised behaviour increased as SDRS risk factors increased. There were weak negative correlations between SASBA and the START items.	Area under the curve (AUC) values ranged from 0.451 to 0.688. HCR-20 total scores, clinical scores (C) and risk management (R) scores significantly predicted sexual verbal comments (VC) and sexually touching others (TO), as well as the transformed categories of violent and non-violent inappropriate sexual behaviour. C scores also predicted non-contact behaviours (NC). Historical (H) scores were not predictive of any sexual outcome. The highest AUC values were for C items. Non-violent and violent sexual behaviours were best predicted by negative attitudes and impulsivity items on the HCR-20.

Discussion

General Findings and Applicability

Consistent with the original aims, this review has systematically identified research measuring ISB in general mental health patients and/or psychiatric institutions. The review has identified some instruments that have been used to measure these behaviours and their psychometric properties. Nevertheless, there were very few specific studies and instruments identified, highlighting a need for further research and development. The general findings, the applicability of the identified tools, and the quality of the research will now be discussed, along with some recommendations for future research.

Only three measures of ISB were identified: The Hypersexuality in Psychiatric Conditions Observer-Rated Scale (HIPCORS; Davidson et al., 2017); The Sexual

Aggression Scale (SAS; Jones et al., 2007); and St Andrew's Sexualised Behaviour Scale (SASBA; Knight et al., 2008). However, the latter was developed for a neuropsychiatric population and not for a general psychiatric population. Nevertheless, this tool has been successfully applied within general mental health settings, as evidenced in the remaining two papers selected for review (Brewer et al., 2016; O'Shea et al., 2016). SASBA scored marginally more on the QATQS than the HIPCORS or the SAS. However, all papers were rated as weak overall; seemingly due to the study designs and associated limitations.

In terms of general applicability, all three tools have shown some promise as measures of ISB in psychiatric settings. Both the SASBA and the SAS were designed to be measures of continuous observation, and involve counting frequencies of specific behaviours, which has the potential to provide rich data but is likely to be costly and time consuming within psychiatric settings. Rather than implementing these tools across wards or services, they may be better utilised for brief periods or with specific patients (e.g. while completing a functional analysis of problem behaviours).

The SASBA has some advantages over the SAS when completing a detailed functional analysis of specific problem behaviours; particularly that it captures information relating to antecedents and consequences as well as ISB. However, considering the tool was designed for patients with acquired brain injury or progressive neurological conditions, some of the current antecedent items may be less relevant to mental health patients (e.g. the item, "had an epileptic fit in the last 24 hours"). Some of the items may still be relevant (e.g. "noisy environment", "obviously agitated or distressed", and "given verbal prompt to comply with instructions", etc.). The tool also provides an option to select 'other', allowing recordings to be personalised to the individual. The SASBA is critiqued in detail in chapter *III*.

The HIPCORS, in contrast to SASBA and the SAS, was designed to capture information at regular intervals, so may not provide as rich data, but could be more easily administered alongside routine risk assessment tools (e.g. Short-Term Assessment of Risk and Treatability (START; Webster et al., 2004). The HIPCORS is also a welcome addition to the assessment of hypersexuality in institutions. Previous assessments of hypersexuality have tended to be community-based for individuals with recognised sexual addictions (e.g. see systematic review by Montgomery-Graham, 2017). Furthermore, this appears to be the first observer-rated scale measuring symptoms of hypersexuality. As the authors have highlighted, observer ratings are less intrusive for mentally ill patients, avoiding issues relating to suspiciousness (Davidson et al., 2017). In the current review, several papers were discounted because they measured hypersexuality in non-clinical settings/populations. However, this is not to say that such measures would not be transferrable or could not be applied to psychiatric settings. Interestingly, in addition to SASBA, there were further papers and tools measuring ISB in patients with specific neurological conditions (e.g. Parkinson's).

Overall, the studies showed that ISB was present within the different settings and mental health samples, with 29% displaying symptoms of hypersexuality (Davidson et al., 2017) and 11% -17% (Jones et al., 2007, & O'Shea et al., 2016) displaying ISB, depending on tool used and length of observations. In contrast, the neuropsychiatric patients displayed 42%-64% (Knight et al., 2008).

Comments on Quality

The current systematic review was exploratory; therefore, the included studies were observational rather than experimental. Three of the included studies (Davidson et al., 2017; Knight et al., 2008; & Jones et al., 2007) piloted new tools which observed ISB behaviours as they naturally occurred (e.g. descriptive/prevalence study). The

remaining two studies (Brewer et al., 2016; O'Shea et al., 2016) explored the relationship between existing risk assessment tools and insitutional ISBs (e.g. prevalence and risk factors). The most appropriate study designs for these questions were used; these were cross-sectional and cohort studies (Cochrane, 2013).

There is a recognised hierarchy within research favouring experimental methodology, and the QATQS quality assessment appears to be biased towards experimental designs (e.g. higher scores awarded for random assignment). While lower scores for selection bias and study design were unavoidable, the included papers did have control over blinding, data collection, and the reporting of dropouts/withdrawals, which they did to varying degrees.

Reliability and Validity

This review highlighted three separate tools, which were clinician- reported outcome measures, which is a type of psychometric tool. With hindsight, it may have been preferable to use an alternative quality assessment from the outset, e.g. COSMIN - Risk of Bias checklist (Mokkink et al., 2012, Mokkink et al., 2018). The COSMIN checklist evaluates key measurement categories such as development, content validity, structural validity, measurement error, responsiveness, internal consistency, reliability, criterion validity, cross-cultural validity, and responsiveness. To assess the risk of bias in each study, the 'worse case' principle applies. Each item within a category can be rated 'very good', 'adequate', 'doubtful', 'inadequate' or 'N/A'. However, the overall category is only as good as the weakest score. On this basis, if one item is deemed 'inadequate', then that entire category should be classed as inadequate. This tool was developed specifically for health related-patient reported outcome measures (HRPRO), but is also applicable to clinician-reported outcome measures (with adaptations).

In this case, the COSMIN Risk of Bias checklist was not used to rate the identified tools because two out of the five studies were using an existing tool (SASBA) and because one of the three identified tools (Sexual Aggression Scale) was not tested for reliability or validity. However, the COSMIN definitions for measurement properties are provided below for illustrative purposes.

Internal Consistency

Internal consistency is, "The degree of the interrelatedness amongst the items" (Mokkink, 2012, pg. 9). This property was only relevant and present for the HIPCORS (Davidson et al., 2017).

Reliability

Reliability is, "The extent to which scores for patients who have not changed are the same for repeated measurement under several conditions: e.g. using different sets of items from the same health related-patient reported outcomes (HRPRO) (internal consistency); over time (test-retest); by different persons on the same occasion (inter-rater); or by the same persons (i.e. raters or responders) on different occasions (intra-rater)" (Mokkink, 2012, pg. 9). Both the HIPCORS and the SASBA were found to have test-retest reliability, inter-rater reliability, but neither were able to demonstrate intra-rater reliability. SASBA only tested consistency of categories of behaviour not consistency of frequencies measured (see separate critique, Chapter *III*).

Content Validity

Content validity is "The degree to which the content of an HR-PRO instrument is an adequate reflection of the construct to be measured" (Mokkink, 2012, pg. 9). The SASBA was proven to have content validity, as staff were asked to rate how accurately SASBA measured all aspects of ISB.

Face Validity

Face validity is, "The degree to which (the items of) an HR-PRO instrument indeed looks as though they are an adequate reflection of the construct to be measured" (Mokkink, 2012, pg. 9). Again, both the HIPCORS and the SASBA were able to demonstrate face validity.

Construct Validity

Construct validity is, "The degree to which the scores of an HR-PRO instrument are consistent with hypotheses (for instance with regard to internal relationships, relationships to scores of other instruments, or differences between relevant groups) based on the assumption that the HR-PRO instrument validly measures the construct to be measured" (Mokkink, 2012, pg. 9). SASBA did not demonstrate criterion validity, because it was a new construct and was not compared to any existing tool. However, staff perceptions of the severity of behaviours within the different behaviour categories (e.g. Verbal Comments) were measured, and the results indicated good convergent validity, which is a type of construct validity.

The COSMIN checklist was used in the psychometric critique for SASBA, see Chapter *III.*

Selection Bias and Sample Size

All five studies were considered to have a selection bias. In general, participants are considered to be more representative of the target population when they are randomly selected (EPHPP, 1998a). However, all of the reviewed studies used opportunistic/convenience sampling. One study sampled all of the patients who consented to participate who were admitted to a mental health unit on a rolling basis

during a four-month period (Davidson et al., 2017). Another study observed the behaviours of all patients confined to a management section of an inpatient unit until each participant was stable enough to move to a non-management section of the unit (Jones et al., 2007). On this basis, all included studies were rated as 'somewhat likely' rather than 'very likely' to be representative of the target population according to the QATAS.

Except for O'Shea et al., (2016) the remaining sample sizes were small, with 100 or fewer participants. However, it was promising to see that most studies incorporated male and female participants. Despite, some limitations, with the exception of the study drawn from a neurorehabilitation participant population (Knight et al., 2008), the remaining four papers included psychiatric samples as the target population, consistent with the aims of the systematic review.

Design and Data Collection

The included studies all suffered from study design biases. The QATQS considered biases due to the allocation process in an experimental study, as well as the independence of exposure and outcome in observational studies. The hierarchy of studies within the QATQS was as follows: Randomized Controlled Trial (RCT), Controlled Clinical Trial (CCT), Cohort Analytic (two-group pre-and post-), Case Control Study, Cohort (one-group pre- and post-), Interrupted time series, and other. With good studies described as RCTs and CCTs, fair studies described as cohort analytic studies, case-control studies, cohort design, and interrupted time series-studies. Other studies were considered poor or weak studies (EPHPP, 1998b).

Three studies were considered weak on the basis that they employed cross-sectional study designs, which did not make comparisons between groups or across periods.

Cross-sectional studies measure the prevalence of an outcome of interest in a chosen sample at a specific point in time, or over short periods (Coggan et al., 2003); in this case, the outcome was ISB. The included studies employed retrospective designs. For example, the HIPCORS study involved nurses reviewing patient notes over the previous week and then making a judgment on the presence of Hypersexuality using the HIPCORS tool (Davidson et al., 2017). Studies also included prospective designs, for example, the SASBA study which continuously measured ISB over ten weeks (Knight et al., 2008), and the Sexual Aggression Scale study which continuously monitored sexual aggression in patients for 122 days (Jones et al., 2007). Overall, the studies were not clear about the numbers of withdrawals and dropouts, although this did not apply to the retrospective studies.

The QATQS assessed whether the data collection tools were shown to be valid and reliable. All of the papers were strong in this area, with the exception of the SAS tool (Jones et al., 2007). The study sample was small (n=18), and the authors had not established the reliability or validity of the SAS.

Confounding Variables

According to the EPHPP (1998), a confounding variable is; "A variable that is associated with the intervention or exposure and is causally related to the outcome of interest" (pg. 2). All of the five studies provided some descriptive data on the prevalence and type of challenging inappropriate behaviour, but none of the studies considered confounders that may have influenced these behaviours (e.g. age, race, mental health diagnosis, medication etc.). Future research should explore factors that contribute to ISB within institutions (e.g. similar to primary and follow-up studies, chapters IV and V).

Blinding

In research, human behaviour can be easily influenced by participants or experimenters' expectations. To avoid this, blinding or masking is used to eliminate biases (Day & Altman, 2000). Good quality research would blind both the experimenters and the participants to the intervention/exposure/research question. The QATQS assesses whether both the outcome assessor(s) were aware of the exposure status of participants and whether the study participants were aware of the research question (EPHPP, 1998). Within the identified research, there was some variability with regards to the extent of blinding for the research. In one of the studies, both the participants and the experimenters were fully informed of the purpose of the research and observations and were therefore not blinded to the research question, increasing the likelihood of experimental biases (e.g. Jones et al., 2007). However, in contrast, O'Shea et al. (2016) which was the highest quality study overall, used routinely collected, retrospective behavioural data, which was then coded by an experimenter blinded to the purposes of the study.

Summary and Recommendations

This preliminary review suggests that there is a gap within the literature, with few published studies measuring ISB behaviour within psychiatric institutions, and even fewer documented tools available for clinicians to quantify these behaviours. There have been some attempts at developing tools specifically for general mental health patients, but most studies adopted a tool developed for a neuropsychiatric population. It is promising that a recent measure of hypersexuality was developed for use with inpatient psychiatric samples.

Further research is required to examine the prevalence of challenging sexualised behaviour within psychiatric institutions and the factors that contribute to these

behaviours. Future research could be conducted to establish if there is an association between inpatient ISB and sexual offending post-discharge for patients with prior sexual offending and general psychiatric patients. Furthermore, there is a need to include more experimental method studies, higher quality research designs, larger sample sizes, and rigorous testing of new tools.

Chapter III. SASBA Critique

Abstract

This psychometric critique aims to evaluate St Andrew's Sexualised Behaviour Assessment (SASBA; Knight et al., 2008). The original development and the piloting of the SASBA tool within neurorehabilitation settings are first described. The tool was found to have face validity, content validity, construct validity, test-retest reliability, and inter-rater reliability within neurorehabilitation settings. Although reliability was not tested on all features of the tool. The reliability and validity of SASBA were assessed using an adapted COSMIN Study Design checklist for patient-reported outcome measurement instruments (Mokkink et al., 2019); Yielding 'inadequate' to 'adequate' ratings on items that could be included. SASBA appeared to have some advantages over alternatives, such as the introduction of more precise categorisation and discrete behaviour types by severity. Overall, the tool appears to be effective at capturing the included categories of ISB, but the consistency in measurement of SASBA frequencies was untested.

Introduction

The St Andrew's Sexual Behaviour Assessment (SASBA)

The St Andrew's Sexual Behaviour Assessment (SASBA; Knight et al., 2008) was designed and used to measure 'Inappropriate Sexual Behaviour' (ISB; Johnson, Knight, & Alderman, 2006), in patients with progressive and acquired neurological conditions. However, the tool was adopted by other psychiatric services outside of the neurorehabilitation services, whose patients displayed similar sexualised behaviours, albeit with different aetiologies (see primary and follow-up study, chapters *IV* and *V*). Patients included those with personality disorders, general mental illnesses and learning disabilities. The aim of this chapter is to describe and evaluate both the development and piloting of the original SASBA tool.

Inappropriate Sexual Behaviour (ISB)

Before developing the tool, the principal authors of SASBA wrote about the complexity of defining and measuring what they referred to initially as 'challenging sexual behaviour' (Johnston et al., 2006). Knight et al., (2008) summarised the findings of the earlier review, specifically, the complexity of using existing definitions that were varied and often competing. Some examples of referenced definitions included: 'Sexual disinhibition' (Braun & Kunik, 2004); 'hypersexuality' (Britton, 1998); 'sexually intrusive behaviour' (Bezeau, Bogdod, & Mateer, 2004); 'inappropriate sexual expression' (Harris & Wier, 1998); 'sexually aggressive behaviours' (Philo, Richie & Kassm 1996); and 'sexually aberrant behaviours' (Simpson, Blaszczynski, & Hodgkinson, 1999). These definitions included a wide range of behaviours that could be pathological or non-pathological, including inappropriate touching, verbal disinhibition, paedophilia, exhibitionism, promiscuity, seductiveness, excessive or public masturbation, voyeurism, and rape.

Knight et al., (2008) adopted a more general definition of 'Inappropriate Sexual Behaviour' (ISB) for the SASBA tool, outlined in the earlier review, that is "a verbal or physical act of an explicit, or perceived sexual nature, which is unacceptable within the social context in which it is carried out" (Johnson et al., 2006, p. 688). Using a more general definition allowed the authors to develop a tool for use with their specific neurorehabilitation pathway, but offered scope for use within other environments/populations.

Before the development of SASBA, there were no specific measures of ISB and few measures of institutionalised ISB (see separate systematic review, chapter *II*). However, there was a tool developed to measure general aggression in neurorehabilitative settings; the Overt Aggression Scale – Modified for Neurorehabilitation (OAS-MNR: Alderman, Knight, & Morgan, 1997). This tool was adapted from an earlier instrument the Overt Aggression Scale (OAS; Yudofsky, Silver, Jackson, Endicott, Williams, 1986) which has been widely used and adapted for other settings such as, outpatient use (i.e. Overt Aggression Scale-Modified [OAS-M]; Coccaro, Harvey, Kupsaw-Lawrence, Herbert, & Bernstein, 1991), for patients with learning disabilities (i.e. the Institute for Basic research Modified Overt Aggression Scale [IBR-MOAS]; Cohen et al., 2009) and in other countries (i.e. the French Perception of Aggression Scale [POAS]; De Benedictis, Dumais, Stafford, Côté, & Lesage, 2013).

The OAS-MNR measured four discrete categories of aggression identified in the OAS: verbal comments; physical aggression to objects; physical aggression to self; and physical aggression to other people, with differing levels of severity (see appendix C, for example of OAS-MNR categories). This tool has proved useful as an outcome measure within neurorehabilitation (Alderman, Knight, Stewart, & Gayton, 2011).

SASBA was modelled on the OAS-MNR scale but aimed to identify categories of ISB as opposed to general aggression.

Population

The SASBA study was conducted across two inpatient services within St Andrew's Healthcare. The first service housed older adults with progressive neurological conditions (primarily dementia) and some younger patients with Huntington's disease. The second service, housed adults with acquired brain injury. The SASBA tool was initially developed by collating the staff examples of previously observed behaviours within these settings, which met the definition of ISB provided by Johnston et al., (2006). Throughout the design and implementation of SASBA, there were differing levels of staff involvement.

Nonetheless, the approach was multi-disciplinary with participation from front line staff including medical staff, nurses, social workers, teachers, psychologists/therapists, physiotherapists, speech and language therapists, occupational therapists, and a pharmacist. Once the tool was developed, it was piloted in both services. SASBA data was collected on two wards over ten weeks for 36 patients. OAS-MNR data was also collected as a point of comparison.

Development of St Andrew's Sexualised Behaviour Scale (SASBA)

Step 1

Initially, an anonymous questionnaire was sent to all clinical staff in these services, asking for behaviours that they had previously encountered which met the definition of ISB. It prompted them to consider what ISB behaviour they had observed, where this occurred, what happened leading up to and after the incidents, and any identifiable

factors that might have influenced the patient's behaviour. Staff were also asked to consider how likely they were to use a scale which measured ISB similar to the OAS-MNR scale already in use in these services. The descriptions provided by staff identified four discrete behaviour categories: verbal comments; non-contact behaviours; exposure; and touching others (see Table 5).

Step 2

Similar to the OAS-MNR, the authors recognised that no identified ISB behaviours were equal in severity. Once the initial ISB example behaviours were identified, a second questionnaire was administered to clinical staff attending weekly ward rounds; this asked participants to rate the severity of each behaviour from 1-4 ("least severe" to "most severe"). Additionally, staff were asked to rate the degree to which they felt these behaviours were representative of ward behaviours.

Step 3

Finally, the tool was tested by providing written examples of ISB and video enacted scenarios, and asking clinical staff to rate behaviours using SASBA. Staff completing this exercise were asked to reflect on their experiences of using the tool.

Table 5.

Example of SASBA Behaviours (Knight et al., 2008).

Severity	Categories of Behaviour			
	Verbal Comments (VC)	Non-Contact (NC)	Exposure (E)	Touching Others (TO)
1	VC1 Mild personal comments e.g. "Have you got a girlfriend"?	NC1 Blowing kisses, kissing self, staring, or making obscene gestures.	E1 Appears unaware of exposing genitals/breasts/ buttocks in public setting.	TO1 Touching for a prolonged period (excess of 2 seconds) or strokes another person.
2	VC2 Comments of a sexual nature e.g., "I've got a big dick".	NC2 Touches own groin/breasts/ buttocks without exposure.	E2 Wearing no clothes in public-not person-directed.	TO2 Kissing another person.
3	VC3 Descriptions of another person – person-directed e.g. "You have a nice bottom"	NC3 Masturbates in non-shared setting (e.g. bedroom (when staff enter).	E3 Intentionally exposes genitals/breasts/ buttocks to another person.	TO3 Lifting skirts, pinching or touching buttocks, sitting on other's knee.
4	VC4 Explicit accounts of sexual intent/requests/activity, e.g., "I want to shag you".	NC4 Masturbates without exposing in a public place.	E4 Masturbates with genitals exposed in public settings.	T04 Touching other's groin/breasts or rubbing genitals/breasts against another person.

Summary of Main Findings

Testing Statistical Properties

- *Descriptions of ISB*: From the 420 clinical staff who were sent the initial questionnaires, 68 (16.19%) responded, providing 166 examples of ISB. The majority of descriptions related to touching others (35.86%), followed by exposure (25.52%), verbal comments (23.45%) and non-contact behaviours (15.17%).
- *Likelihood of use*: In terms of usability, of the initial staff who responded, the majority (96.97%) considered themselves "very likely" to use SASBA. In addition, some provided feedback on issues and benefits of the tool, see section 4.3. Results demonstrate good face validity and content validity.
- *Severity rankings:* From the 115 follow-up questionnaires distributed, 84 (73.04%) responded by completing the severity rating exercise. Mean severity ratings were calculated for the different behaviour categories and the severity descriptions. Perceptions of severity were generally consistent across staff and the two services, generating consistent rank order, indicating good convergent validity.
- *Representativeness of behaviours:* The majority (87.80%) of follow up questionnaire respondents gave a positive rating of 4 or more, on the Likert type scale (with 1= "not at all well" to "6=very well") when asked how the proposed behaviour descriptions reflected their clinical experience. Providing further evidence of content validity.
- *Inter-rater reliability* of *written descriptions*: Of the 85 staff approached to use SASBA to rate written descriptions, 25 (29.4%) participated. Because there were more than three raters, the degree of consistency between staff was measured using Fleiss's Kappa (Fleiss, 1971). Kappa values were .41 ("moderate") for agreement about antecedent; .94 ("almost perfect") for

agreement about the type of behaviour; .67 ("substantial") for agreement about intervention. To measure overall consistency in rating severity of behaviours, the agreement were observed across all 16 behaviour descriptions (.99 or more for all raters).

- *Face validity:* Staff rating the written descriptions were asked to rate how well SASBA reflected their clinical experience again on a scale of 1 ("not at all well") to 6 ("very well"). In total, 24 staff responded. Most staff (75%) rated SASBA as 5 or 6. The mean rating was 4.92 (range 2-6).
- *Inter-rater reliability of video enactments:* For video enactments, three staff rated 12 video enactments. Again using Kappa ratings, antecedents was .49 ("moderate agreement"), but for behaviour was 1 ("perfect agreement" and intervention .85 ("almost perfect"). The ICC for behaviour descriptions was 1, which is a perfect score on this test.
- *Test-retest reliability:* The same three staff rated the 12 videos after a delay of 4 weeks in a different order. Similar results were obtained: antecedents (.46; "moderate agreement"), behaviour (.85; "almost perfect"), and interventions (.84; "almost perfect").

<u>Piloting the Tool</u>

- *SASBA Behaviours:* During a 10-week period, the risk behaviours of 36 patients were collected. In total, the patients displayed 924 risk behaviours. Most of these were recorded using OAS-MNR (773; 83.66%) rather than SASBA (151; 16.34%). On the ward for progressive neurological conditions (PNC), verbal comments and non-contact behaviours were more frequent, whereas on the acquired brain injury (ABI) ward there were greater numbers of verbal comments and exposure. Even though the frequency of OAS-MNR behaviours was much higher, the numbers of patients who displayed one or more SASBA recordings

was high. On the PNC ward, the number of patients with SASBA incidents recorded was 63.6%, compared with the ABI ward that was 42.9%.

- *Antecedents:* On the PNC ward, SASBA behaviours were typically not preceded by obvious antecedents. However, there were antecedents for OAS-MNR behaviours on the PNC ward; for example, 13.5% of aggression occurred following a verbal prompt from staff. On the ABI ward, half of SASBA behaviours occurred in the absence of any obvious antecedents; however, other verbal interactions (22.5%) and verbal prompts (20%) were common antecedents.
- *Interventions:* Most SASBA behaviours were both ignored (PNC [14.3%] and ABI [76.3%]) or involved talking to patients (PNC [81%] and ABI [20%]).

Critique

Development of the Tool

One area of consideration when reviewing research is to determine whether the aims and objectives, research questions and hypothesis of their project have been clearly defined (Coughlan, Cronin, & Ryan, 2007). In this case, there was a clear rationale for the development of the tool, "to develop a standardised recording instrument that would be suitable for the measurement and assessment of ISB in people with PNC and ABI within in-patient settings" (Knight et al., 2008, p. 135). The research was observational rather than experimental, and therefore there was no *a priori* research question/hypothesis. On this basis, it was not necessary to achieve probability sampling methods (e.g. Randomised Control Trials [RCTs]), which are considered to be superior in the hierarchy of evidence and research designs (Cochrane, 2013). Instead, the authors used convenience sampling for staff and patient recruitment at different stages of the research (e.g. sending anonymous postal questionnaires to all clinical staff in the services). Convenience sampling is a form of non-probability sampling which benefits

from ease of selection, but can sometimes suffer from lack of generalisability (Phua, 2004). It is not clear from the authors why they did not opt for probability sampling, given that they had 420 clinical staff accessible to them within the service. It may have been possible to randomly allocate and invite staff to participate, using stratified random sampling which involves dividing the whole population (e.g. staff), into subgroups (e.g. the different professions) and then randomly allocating participants (Särndal, Swensson, and Wretman, 2003).

While the staff participants were easy to identify (e.g. via the staff mailing list); the response rate was relatively low at some stages, particularly during the collection of ISB descriptive behaviours (e.g. only 16 % of staff approached responded). However, this was acknowledged by the authors, who suggested possible reasons for lack of participation, such as the length of the questionnaire and potentially not having experience of witnessing ISB. One alternative method that could have been used to supplement the staff behavioural descriptions may have involved an audit of existing patient records to help identify examples of sexual behaviours that met the ISB definition.

The validity of the SASBA tool was partially assessed by the authors. Validity refers to how accurately a concept is measured; specific types of validity include 'content validity' (e.g. how accurately SASBA measures all aspects of ISB), 'construct validity' (e.g. how well SASBA measures ISB), and 'criterion validity' (e.g. how well SASBA was related to other instruments measuring ISB) (Heale & Twycross, 2015).

In this case, the authors of SASBA tested the face validity of the tool, which is a type of content validity (Heale & Twycross, 2015). In the initial development stages, staff were asked their opinions of how representative the ISB behaviours were of ward

behaviours observed in their professional experience. Furthermore, in the pilot stage staff were asked again asked how well SASBA reflected their clinical experience. On both occasions, they gave positive ratings, suggesting that the tool measured the concept of ISB. The authors did not measure criterion validity. The SASBA tool was measuring a new construct (ISB), so it was not possible to test how well it performed against similar tools (Heale & Twycross, 2015). However, they did assess the construct validity. Staff perceptions of the severity of behaviours within the different behaviour categories (e.g. Verbal Comments) were measured, and the results indicated good convergent validity, which is a type of construct validity.

The authors also tested the reliability of the SASBA, which relates to the consistency of a tool or measure with the most common forms of reliability being: 'internal consistency', 'test-retest reliability', and inter-rater reliability' (Heale & Twycross, 2015). As this was an observational test, internal consistency did not apply. The authors were able to incorporate methods to measure test-retest reliability (e.g. consistency of results with repeated testing) and inter-rater reliability (e.g. consistency of use with different users). Although it was recognised by the authors that the methods of testing consistency were not ideal. The optimum method would have been to check the concordance of real-life observations witnessed by staff on the wards or even using real-life footage. Neither possibility was feasible within the ward environment due to practical and ethical reasons, but this did reduce the generalisability of the results.

Instead, staff were retested using SASBA and the video enactments following a period of 4 weeks, and the results were similar. Furthermore, there were high levels of agreement between staff rating both the verbal descriptions and video enactments. It is recommended that a minimum score of .8 (correlational coefficient) is used for

reliability estimates (Loo, 2001). In this case, scores exceeded the minimum when recording behaviours and interventions across time and raters.

It is worth noting that there were only three staff members rating the video enactments compared with 25 who rated the verbal descriptions. Re-administering the verbal descriptions at a later stage or increasing the number of staff rating the video enactments may have provided results that were more robust. However, this may have been problematic, given the low response rates discussed earlier.

In addition, there was a fundamental flaw with the strategy for assessing test-retest reliability and inter-rater reliability that was not highlighted by the authors. This concerned the measurement of frequency consistency. Respondents were only asked to rate written descriptions of ISB using the SASBA categories to determine how consistently staff recognised each category. However, the consistency of recording/counting observations of each behaviour did not appear to be tested. Therefore, it is unknown how accurately SASBA captures the frequencies of real-life behaviours on the wards, which are often very busy and distracting environments.

Lastly, as highlighted in chapter *I,* SASBA was developed based on the A-B-C Model (Antecedents, Behaviour, Consequence) which developed from behaviourism (Watson, 1920, Thorndike, 1932, & Skinner, 1938). This implies that ISB is a behavioural response to a stimulus. Interestingly, antecedents (e.g. verbal prompts, obviously agitated or distressed, none, and other verbal interaction, etc.) were explored in the pilot study. In the PNC group, most incidents (93.4%) were classified as 'none' suggesting that either the antecedents were not observable to staff or that these were internally driven. Whereas in the ABI group, 50% were identified as "none", 22% were identified as "other verbal interaction", and 20% were identified as "verbal prompt".

The model does not consider either biological (e.g. disease symptoms) or cognitive processes (e.g. thoughts) which may contribute to the presence of ISB. It is noted that one of the antecedents identified during the development of the tool, which was included as an option on the SASBA tool (see Appendix 5), did have a biological origin; "had an epileptic fit in the last 24 hours". All other options were related to social interaction.

COSMIN Risk of Bias Checklist

Thus far, this critique has been mostly descriptive. Except for the developers, there is no existing research that evaluates the reliability and validity of the tool. To assess the methodological quality and bias, the COSMIN Risk of Bias Checklist was used (Mokkink et al., 2018, & Prinsen et al., 2018). The checklist was designed to aid clinicians in their assessment of the methodological quality of single studies. It was intended for patient-reported outcome measures (PROMS), not for clinician-reported outcome measure, which SASBA is.

Nonetheless, according to the manual, the instrument can be used for clinician-reported outcome measures and other tools, but adaptions may need to be made. The central adaptations, in this case, were excluding/adapting questions regarding patient involvement to focus more on professional involvement. SASBA was developed by clinicians for use by clinicians, and so patient involvement was not a prerequisite for quality. However, SASBA does measure patient behaviours, and therefore co-production may have increased authenticity.

The COSMIN Risk of Bias Checklist assesses nine categories relating to development and measurement, see Table 6. It is not necessary to present them all, only those relevant to the tool being evaluated. The checklist is rated on the principles of the 'worst score counts'. For example, PROM development comprises of many separate items.

Each item can be rated 'inadequate', 'doubtful', 'adequate' and 'very good'. The overall rating in each category is evaluated according to the lowest score received on these items. In some cases, items can be rated as not applicable (N/A).

Table. 6 COSMIN Risk of Bias Checklist

	Rating	Additional Comments
Content Validity		
Development: PROM Development *(Sections relating to patients involvement in design were replaced with professionals or were excluded).*	'Adequate'	The majority of items were rated as 'very good'. The item(s) which lowered the overall score were: 18. Was an appropriate qualitative method used to assess the comprehensibility? (Response 'adequate' – 'assumable that the method was appropriate but not clearly described'). 34. Were at least two researchers involved in the analysis? (Response 'adequate' – 'assumable that at least two researchers were involved in the analysis but not clearly described').
Measurement: Content Validity *(Sections asking patients about comprehensibility and relevance were removed).*	'Adequate'	The majority of items were rated as 'very good'. The item(s) which lowered the overall score were: 26. Were at least two researchers involved in the analysis? (Response 'adequate' – 'assumable that at least two researchers were involved in the analysis but not clearly described')
Remaining measurement properties		
Measurement: Reliability *(Items regarding time intervals were excluded, however intraclass correlation coefficient [ICC] and Kappa Scores were evaluated).*	'Inadequate'	Only three items could be included in this category: 4. For continuous scores: Was an intraclass correlation coefficient (ICC) calculated? (Response 'very good' – ICC Calculated and model or formula of the ICC is described) 5. Was Kappa Calculated? (Response 'very good' – Kappa Calculated). 6. Where there any other important flaws in the design or statistical methods of the study (Response 'inadequate'– 'other important methodological flaws') **.

*Sections on Measurement Error, Structural Validity, Criterion Validity, Hypothesis Testing for Construct Validity, & Internal Consistency were not applicable and therefore were not included.

** In the case of reliability there were other important flaws (e.g. the consistency of recording the frequencies of behaviours was not measured, and the low generalisability resulting from using simulated situations during the development phase).

Pilot Study

In addition to validity and reliability, a psychological tool is deemed effective if it provides appropriate norms (Kline, 1986). However, this did not appear to be the intention of Knight et al. (2008), as the rationale for conducting the pilot study was only "to generate some initial field data" (p 136). Norms or standardised scores would have been useful because they indicate an individual's performance (e.g. frequency incidents of SASBA behaviour) about the normative sample (e.g. other patients with PNC or ABI). The predictive validity of the tool was also not tested, which may have been useful for clinicians using the tool in future. Predictive validity is a form of criterion validity, where a score using a scale or tool predicts some criterion measure (e.g. length of stay). The authors provided frequency information but did not comment on the normality of their data set. Non-normality is presumed because instead of presenting measures of average (e.g. median and mean) they provided measures of dispersion (e.g. weekly range of SASBA recordings). A follow-up study was conducted by Alderman, Knight, and Birkett-Swann (2009) which looked at SASBA and OAS-MNR outcomes over a three-month period within the same neurorehabilitation service, again this did not provide normative data, but it did include more patients (n=91) and provided further descriptive information about the frequencies of SASBA recordings.

Usability and Applicability

The SASBA tool was found to have good face validity, with staff indicating that SASBA reflected their clinical experience well. Staff also provided detailed qualitative feedback about their concerns and presumed benefits of the tool. Matters related to the logistics of using the tool (e.g. time required, and motivation to use the tool), intent of patient

(e.g. could staff ascertain sexual intent), design (e.g. the degree to which SASBA captured all behaviours), ward rules (e.g. staff understanding of what is acceptable and unacceptable), labelling (e.g. impact on patient of labelling behaviour as ISB), and sexual taboo (e.g. staff discomfort/embarrassment around ISB). Benefits related to facilitation (e.g. may assist with more objective and consistent recording of behaviour), clarification (e.g. clear to staff what behaviours are inappropriate and the severity of these), staff awareness (e.g. increasing staff awareness of ISB), and intervention (e.g. identifying appropriate responses to manage the behaviour) (Knight et al., 2008).

Although the SASBA was developed for neurorehabilitation settings, it was routinely used within St Andrew's mental health wards (see primary and follow-up studies) for a substantial period. Furthermore, SASBA has proved to be a useful tool for (retrospectively), categorising risk behaviours and distinguishing between violent and non-violent sexual behaviours in secure mental health settings, when using the Historical Clinical Risk -20 Risk Assessment (HCR-20; Webster, Douglas, Eaves, & Hart, 1997) for predictive validity (O'Shea et al., 2016). SASBA has also been used within a learning disability service to assess whether the Short Dynamic Risk Scale (SDRs) and Short-Term Assessment of Risk and Treatability (START) were related to risk behaviours (Brewer, Pomroy, Wells, & Ratcliffe, 2016).

Finally, the authors of SASBA did not describe how the tool was actually used (e.g. how long SASBA took to complete). The primary study in Chapter *IV*, details extactly how SASBA was used within these services.

Performance Compared with Alternatives

A pilot study compared the performance of SASBA with OAS-MNR; however, OAS-MNR measured general aggression rather than ISB. The SASBA was not directly compared to other measures of overt ISB behaviour, (e.g. the Sexual Aggression Scale; [Tuomi Jones et al., 2007] or Ryden Aggression Scale; [Ryden, 1988]). When looking at these other measures, there are some advantages of SASBA. The most obvious is the strict categorisation of discrete behaviours by types and severity. For example, the Sexual Aggression Scale developed around the same time, was much broader, and with different behaviours (e.g. masturbation and sexually threatening comments) grouped in the same category.

Furthermore, the Sexual Aggression Scale was not tested for reliability and validity. Conversely, The Ryden Aggression Scale was found to have high levels of reliability and validity; with the subscale measuring ISB behaviour having an acceptable level of internal consistency. However, the Ryden Aggression Scale measures the frequency of behaviours and not severity, as SASBA does. The Hypersexuality in Psychiatric Conditions Observer-Rated Scale (HIPCORS; Davidson, Cheung, & Jensen 2017) also showed promise as a quick and reliable method of assessing behaviours at different time intervals and was designed specifically for patients with mental illness (see systematic review, chapter II, for further information).

Conclusion and Recommendations

SASBA has proven to be a useful measure within neurorehabilitation pathways, allowing the continuous recording of ISB behaviours with high levels of agreement across observers and time intervals. It is recognised that SASBA was explicitly developed for observing ISB behaviours in those with PNC and ABI, and was not designed to measure 'offence paralleling behaviours' of sexual offenders (OPB; 1997; Daffern et al., 2007).

In some cases, the SASBA tool could be useful to explore the antecedents, behaviours and consequences of some repeat offences (e.g. exposure) within institutions (see primary study). However, this was not the intention of SASBA, with the authors highlighting from implementation that "the tool is a measure of overt ISB shown by patients in in-patient settings and is therefore unlikely to be useful as an instrument for collecting data about coercive sexual or paedophile behaviours" (p. 154).

Notwithstanding that the SASBA was not designed for general mental health settings either, it was used on many male forensic wards within St Andrew's for some years. This application involved recording incidents of ISB across wards for all patients, irrespective of individual patient risks or target behaviours. Although no known research was conducted to determine the time and cost implications of using SASBA on these wards, issues relating to time were frequently reported by users and appeared to be a contributing factor to the decline in routine use of the tool across these services. During the period of use, ISB information was routinely collected, allowing the primary and follow-up studies to be conducted. The present doctoral research has shown that SASBA was useful in general mental health settings, particularly in the case of highly sexualised individuals (e.g. patients with long histories of sexually disinhibited behaviour) and some psychotic patients; but the tool would benefit from being revised for general mental health patients.

In the absence of an adapted scale, the SASBA could continue to be used within general mental health settings. However, proper use of this tool (e.g. recording behaviours as they occur with details of antecedents, behaviours and consequences) should be patient-specific rather than ward specific. Instead of continuous recording of ISB, the tool may also be a useful pre-and-post- behavioural measure (e.g. when evaluating the effectiveness of interventions), or to support functional analyses of problem behaviours.

Alternatively, where resources are limited or time-bound, less rigorous use of the tool may be employed to measure progress (e.g. retrospectively identifying SASBA behaviours from nursing notes).

Chapter IV. Primary Study

Measuring Inappropriate Sexual Behaviour in a Mental Health Sample using St Andrew's Sexualised Behaviour Assessment (SASBA): A Comparison of Patients with Prior Sexual Offending and General Patients.

Abstract

There is little research exploring the institutional sexual behaviours of mental health patients within secure psychiatric services. Consequently, it is unclear which patients are more likely to exhibit Inappropriate Sexual Behaviour (ISB) and which patients should be closely monitored during hospitalisation. The present retrospective cohort study measures ISB across several general mental health wards using routinely collected data from St Andrew's Sexualised Behaviour Assessment (SASBA; Knight et al., 2008). This all-male sample (n=137) consisted of patients with mixed diagnoses and high co-morbidity. The most common diagnoses included psychosis, personality disorders, and learning disabilities. Patients with prior sexual offences (n=50) were compared to general psychiatric patients (n=51), and those with prior ISB (n=38). Most patients with prior sex offences displayed ISB within the institution. However, they did not differ significantly from general psychiatric patients, whereas those with a prior history of ISB displayed significantly more of these behaviours. Predictive factors for the presence of ISB were a prior history of ISB and the presence of psychotic illness. The regression model was significant (overall accuracy of 66%) with higher sensitivity compared to specificity. The findings provided some indication for whom SASBA may be appropriate; however, a follow-up study was recommended to examine in more detail those with psychotic illness.

Introduction

This thesis aims to evaluate the utility of using St Andrew's Sexualised Behaviour Assessment Scale (SASBA; Knight et al., 2008) for detecting sexual inappropriateness with mental health patients in forensic psychiatric settings; partly by assessing whom SASBA should be used with. This study is interested in exploring a range of factors (e.g. diagnoses) but has also taken advantage of the opportunity to compare patients with and without sexual offence histories, due to the high presence of sexual offenders within the sample.

In recent years there have been substantial developments made within the field of sex offender risk assessment. Clinicians have transitioned from the early days of unstructured clinical intuition to using actuarial risk assessment instruments (ARAIs) and structured professional judgement tools (SPJs) (Leam & Rettengberger, 2016). The combination approach is recommended because ARAIs focus on static risk factors (e.g. Risk Matrix 200/Sexual [RM2000-S; Thornton et al., 2003) and are considered the most accurate in predicting sexual recidivism. By contrast, SPJs consider dynamic risk factors (e.g. Risk for Sexual Violence Protocol [RSVP; Hart et al., 2003]) and are useful in risk formulation and risk management (Leam & Rettengberger, 2016).

These improvements would not have been possible without influential theories of sexual offending. Theories can be single, descriptive, multi-factorial, or treatment oriented (Ward, Polaschek, & Beech, 2006). The Integrated Theory of Sexual Offending (ITSO; Ward & Beech, 2005) suggests that a combination of different theories, trajectories and causal variables can be used to explain the onset, development and maintenance of sex offending. ITSO provides a framework for recognising the uniqueness of each sex offender and recommends incorporating biological, cultural, social and psychological factors into risk formulation. Risk formulation is the process of tying together the past,

present and future to develop a deeper understanding of an offender's harmful behaviour and then linking assessment findings to management plans (Logan, 2016).

With increasing numbers of sexual offenders, there is an ever-greater need for effective risk assessment and risk formulation. The government figures suggest that between the years 2016-2017. there has been a 14% rise in prosecutions of sexual offences, with approximately 13,500 perpetrators convicted in that period (Crown Prosecution Service, 2018). This increase was attributed to high profile cases within the media, victims being more willing to report offences to the police, as well as changes in police recording practices (Crime Survey for England and Wales; Office for National Statistics, 2017). However, official figures are limited because many victims still fail to report sexual offences. The survey identified some reasons why rape victims have not reported incidents, which included embarrassment, thinking the police couldn't help, and not wanting to go to court. In March 2018, 19% of the prison population were serving sentences for sexual offences. These figures did not include restricted patients who either were sentenced to a hospital order or were transferred from prison to hospital for treatment (Ministry of Justice, 2018). The latest figures suggest that there were just over 600 restricted patients with sexual offences detained in psychiatric settings (Ministry of Justice, 2018).

It becomes even more complicated when clinicians have to formulate current risk within artificial environments such as prison or psychiatric settings because these environments are specifically designed to reduce risk behaviours. To overcome this, clinicians rely on proxy measures or to observe naturally occurring 'offence paralleling behaviours' ([OPBs]; Jones, 1997; Daffern et al., 2007; Daffern, Jones, & Shine, 2010) or 'offence analogue behaviours' ([OAB]; Gordon & Wong, 2010) that in some way

mirror previous offences (Jones, 2010). See Chapter *I* for a more detailed discussion about OPBs and OABs.

While OPBs and OABs will be unique to the individual and their offence, there may be common behaviours that convicted sex offenders' exhibit when incarcerated. This is because sexual offending may continue in closed hospital and custodial settings. There appear to be relatively few studies that have explored institutional behaviours of sex offenders within psychiatric institutions. This lack of research may be due to inconsistencies in observing and recording these behaviours as well as a lack of behavioural measures.

Although limited, a few behavioural measures in existence assess patient aggression. Perhaps the oldest and most well known is the Overt Aggression Scale (OAS; Yudofsky et al., 1986) which measures general aggression in adults and children, with different levels of severity across four categories of aggression: verbal aggression, physical aggression against objects, physical aggression against self and physical aggression against others. A modified version of this scale has also been developed to measure aggressive behaviours in patients with brain injury (MOAS; Alderman, Knight & Morgan, 1997), but these do not assess sexual conduct.

Measures of institutional sexual behaviours only came into existence in the late 2000s. In America, Jones et al. (2007) developed the Sexual Aggression Scale to rate the severity of different sexual behaviours displayed within institutions. The tool was tested with a small sample, which consisted of patients with mixed diagnoses (e.g. schizophrenia, dementia, and brain injury), none of whom were convicted of sexual offences. The reliability and validity of the tool were not established, and the behavioural categories were very broad. In one category, the following behaviours were

arbitrarily grouped: removing clothes at an inappropriate time, masturbation, paying for a sexual act, and sexually threatening comments.

The St Andrew's Sexualised Behaviour Assessment (SASBA; Knight et al., 2008) was developed to measure inappropriate sexual behaviour. In this context, inappropriate sexual behaviour (ISB) was defined as "a verbal or physical act of an explicit or perceived sexual nature which is unacceptable within the social context in which it is carried out" (Johnson, Knight, & Alderman, 2006, pg. 688). Similar to the Sexual Aggression Scale, SASBA rated behaviours in terms of severity. However, this tool was developed based on the OAS and MOAS, but with more clearly defined categories of behaviour. These included verbal comments, exposure, non-contact behaviours, and touching others. SASBA was originally developed for patients with acquired or progressive neurological impairments, not for general mental health patients. Offence information was not provided.

O'Shea et al. (2016) examined the nursing notes of 613 psychiatric patients and retrospectively identified ISB using SASBA categories. The patients consisted of males and females from a range of different general mental health wards. Over half of the sample were admitted under a legal forensic section, though offence information was not included in the study. The most common diagnoses in order of frequency were schizophrenia, schizotypal or delusional disorders, disorders of adult personality and behaviour, mental retardation, and mental and behavioural disorders due to psychoactive substances. In this sample, 17% had displayed one or more incidents of ISB. The most common behaviour was touching others, followed by sexually inappropriate comments, other non-contact behaviours, and exposure. O'Shea et al. also differentiated between sexually violent and non-violent behaviours. Overall, males

displayed slightly higher rates of violent and non-violent sexual behaviours than females. Additionally, those under 40 were more likely to be sexually violent.

Previous research has shown that ISB is present in those with acquired or progressive neurological impairments as well as general mental health patients. It is unclear whether mentally ill patients with sex offence histories display ISB to a greater degree. Whether or not ISB is present has serious implications for how these patients are monitored. If they do engage in ISB, this data could be routinely incorporated into risk assessment and risk prediction. If they do not, then measures of ISB may be redundant in this group. This would also raise further questions such as, are there other behaviours which could be routinely monitored in mentally ill patients with prior sex offences, or should a case by case 'offence paralleling' formulation approach be employed?

Aims and Objectives

The present study used the SASBA to measure ISB in general mental health patients, with and without sexual convictions. The study was limited to measuring overt behaviours because SASBA was not designed to detect coercive sexual or paedophile behaviours (Knight et al., 2008).

The aims of the study were:

1. To measure the frequencies of SASBA recordings within a male psychiatric sample.
2. To examine the relationship between patient groups (e.g. sexual offence group, general patient, and those with a previous history of ISB) and the presence of one or more SASBA recordings.
3. To examine the relationship between the sub-categories of SASBA.
4. To explore factors associated with the presence of SASBA recordings.

5. To test for group differences between non-violent SASBA behaviours and violent SASBA recordings.

6. To comment on the suitability of SASBA within this population.

Method

Institution

St Andrew's provides secure mental health inpatient care across multiple sites. The study was carried out using clinical records from the Men's Mental Health pathway within St Andrew's Healthcare, Northampton, United Kingdom. The original SASBA data used within this study were collected from inpatients over seven years (February 2008 to February 2015).

Participants

Study participants comprised of male patients from general mental health wards whose psychology records were available to view in shared drive psychology folders (June 2017 to December 2017). The way SASBA was recorded changed in 2015, and only patients who had original SASBA spreadsheets before this were included in the sample. The Patients were categorised based on whether they had previous sexual convictions, a previous history of ISB, or no history of convictions of ISB.

Procedures

A retrospective evaluation was conducted using routinely collected archival data. SASBA data and offence information was extracted by the author of the present study from available patient psychology records. Only the first six months of SASBA data was collected for each participant. This was typically recorded during the first six months of admission, except for patients who were residents before the introduction of the SASBA tool.

Additional information was extracted from RIO electronic records by St Andrew's Management Information team. The final data-set comprised: SASBA recordings, demographic information, age, legal status, history of sexual offending, level of security, and the International Classification of Disease-10 (ICD-10) diagnosis. For patients with a sexual conviction, offence data was also recorded (e.g. contact versus non-contact offence, and victim type). Individuals with sexual offences were allocated to the sex offender group. Those who had not been convicted but had previous allegations of sexual offending or a prior history of ISB in prior placements were allocated to the ISB group. Patients with no history were allocated to the general patient group.

Measures

This study analysed data that was captured during routine practise using the SASBA tool. SASBA was originally developed by Knight et al. (2008), for use with patients with neurological impairment; however, it was routinely used within other services of St Andrew's between 2008 and 2015. SASBA is a standardised recording instrument for the measurement of Inappropriate Sexual Behaviour. The assessment allows continuous observation of inpatient behaviours on four categories of ISB: verbal comments (VC), exposure (E), non-contact behaviours (NC), and touching others (TO). Each category has four levels of severity (1-4, see appendix D) for original SASBA tool used by staff. The statistical properties of the tool were determined by using video enactments and written descriptions of ISB that were generated by clinicians. SASBA was found to have strong construct and content validity, and good inter-rater and test-retest reliability.

In addition to exploring the original SASBA data, the present study transformed the data into the categories of non-violent ISB (NV Behaviours) and violent ISB (VI

Behaviours) which were introduced by O'Shea et al. (2016). NV behaviours consisted of VC1, VC2, VC3, E1, E2, and TO1. The VI behaviours consisted of VC4, NC3, NC4, E3, E4, TO2, TO3, and TO4.

Examples of non-violent behaviours include:

- Intimate personal comments
- Comments of a sexual nature
- Descriptions of body parts of another person
- Blowing kisses, staring at body parts and making obscene gestures
- Touches own groin over or under clothes (but no exposure)
- Appears unaware that they are exposing themselves
- Wearing no clothes in a public setting (but is not person-directed)
- Touches others for a prolonged period (but not private body parts)

Examples of sexually violent behaviours include:

- Explicit accounts of intent or requests of sexual activity
- Masturbating when staff are present, or masturbating in public areas
- Intentionally exposing (genitals, breasts or buttocks) to another person or in public settings
- Kissing another person*
- Lifting skirts, pinching or touching buttocks, or sitting on other's knee *
- Touching others groin, breasts, or rubbing own genitals or females breast against another person *

*Please note: These behaviours include non-consensual activities, but also consensual activities that were inappropriate at the time (e.g. wrong place and time).

Ethics

This study was conducted as a service evaluation and was approved by St Andrew's Clinical Audit and Service Evaluation Committee. The study was also approved by the Division of Psychiatry and Applied Psychology ethics committee at the University of Nottingham. Direct participant consent was not required in this case because data had already been collected as part of routine practice and was not collated for research purposes. To comply with ethical approval, all data had to be anonymised. The data set was collated by the principal researcher; however, at various points, the data was anonymised by a third party not directly involved in the research (psychology graduate volunteer).

Analysis

IBM SPSS Statistics was used to analyse the data. To measure ISB, descriptive statistics were generated for total SASBA recordings, SASBA sub-categories, and NV and VI Behaviours. To test for normality, Kolmogorov-Smirnov tests were carried out. As is often the case with real-world research, the present data were not normally distributed. To overcome issues of normality, correlational and non-parametric tests were employed, which did not require the assumption of normality (Field, 2018). Regression analyses used bootstrapping to accommodate problems with data distribution.

Results

Sample characteristics

The sample consisted of 137 male inpatients from general mental health wards. The wards differed in levels of security, with participants from low secure (19%), medium secure (35%), and locked services (46%). There were some informal patients, but the

majority were detained under forensic and mental health sections. The most common sections were Section 37/41 (34%), Section 3 (20%) and Section 47/49 (11%). Participants included patients with prior sexual offences (n=50; 37%), individuals with no convictions but prior history of sexually inappropriate behaviour (n=36; 26%), and general psychiatric patients (n=51; 37%). Most participants were white British (80%), ranging in age from 18 to 88, with a mean age of 42.50 years (*SD* 19.63).

Diagnostic Characteristics

Within the sample, there were high rates of co-morbidity, with 64% of participants diagnosed with two or more mental health diagnoses. The most common three diagnoses were F20-F29: Schizophrenia, schizotypal and delusional disorders (53%), F60-F69: Disorders of adult personality and behaviour (42%), and F70-F79: Mental retardation (21%). The most common diagnosis for convicted for patients with prior sexual offending were disorders of adult personality and behaviour. Schizophrenia, schizotypal, and delusional disorders were the most common disorders for both the ISB group and the general psychiatric patients (see Appendix E).

Descriptive statistics

In total, there were 4867 individual incidents recorded using the SASBA tool over a six months. Most recordings were verbal comments (2414), followed by touching others (1211), exposure (688), and non-contact behaviours (554). The SASBA items were grouped into an additional two categories of non-violent but inappropriate behaviours (2844), and violent and inappropriate behaviours (2023). Levene's test was conducted for total SASBA frequencies, which confirmed that the assumption of homogeneity of variance had not been met, F (2,134) = 11.485, p<.001. Therefore, the group variances differed significantly.

Outliers were present, and the distribution of data did not follow a normal distribution. This was evidenced from examining graphs (e.g. histograms and box-plots) and significant results on the Kolmogorov-Smirnov tests, $p<.05$. Table 7 provides a more detailed description.

Table 7.

Descriptive Statistics for Total SASBA Frequencies (whole sample including outliers)

	Mean *(5% trimmed)*	SD	Variance	Skewness	Kurtosis	Kolmogorov-Smirnov	
						Value	Sig.
Total sample	8.84 *(3.63)*	26.74	715.08	4.34	20.55	.37	.000
Sexual Offence Group	12.02 *(6.70)*	17.10	292.38	5.65	35.13	.34	.000
History of ISB	106.94 *(42.56)*	322.69	104125.37	4.52	21.66	.37	.000
General Psychiatric Patients	8.16 *(4.45)*	21.64	468.215	4.94	28.370	.35	.000

Outliers

From exploring stem and leaf plots, two clear outliers were identified in the sample. One patient had 1768 SASBA recordings during the 6-month period. The majority of these were classified as violent inappropriate (1302) compared with non-violent

inappropriate (466). This patient had a diagnosis of bipolar affective disorder and unspecified dementia, yet was housed within a general mental health ward rather than a neurorehabilitation service. He had a long history of ISB before admission but was not a convicted sex offender. A further patient had 879 SASBA recordings within the same period. The majority of these were non-violent (584) as opposed to violent (295). This patient had a diagnosis of schizoaffective disorder and no diagnosed co-morbidities. He had a prior history of inappropriate sexual behaviour but was not a sexual offender. Neither of these outliers were removed in the initial stages of analysis because the statistical analysis employed, used categorical data (e.g. presence of a factor, 'yes or no') as opposed to continuous data (e.g. numbers of recordings). However, this case was excluded from the final analysis (Group Difference in Non-Violent (NV) and Violent (VI) ISBs).

Group Differences – Presence of SASBA

In total, 61% (n=83) of the sample had one or more SASBA recordings, see table 6. The ISB group had the highest number of participants with recordings. To test whether there was a relationship between group category and the presence of SASBA recordings, Pearson's chi-square test was conducted (Fisher, 1922; Pearson, 1900). There was a significant association between group category and presence of SASBA recordings, $\chi^2(2) = 11.09$, $p < .05$. Cramer's V was .29, suggesting a low to medium effect size overall.

Table 8.

Contingency Table - Presence of SASBA Recordings (Per Group)

	SASBA Recordings			
	Yes		No	
Group	N	(%)	N	(%)
Sexual Offence Group	28	56	22	44
History of ISB	30	83	6	17
General Psychiatric Patients	25	49	26	51
Total	83	61	54	39

Relationships between SASBA Sub-categories

The SASBA tool consists of four discrete categories of ISB; so bivariate correlations were carried out to examine the relationships between categories within the overall sample, see table 7. Kendall's Tau was used because the data set was non-normal. This test makes it possible to conduct correlations by applying ranks to the data (Field, 2018). The significant values for the correlation coefficients were less than .01; therefore there were significant positive relationships between all of the SASBA sub-categories. Most of the effect sizes ranged from medium (r=.30*)* to large (r=.50*)* based on Cohen's *d* (Cohen, 1988, 1992). The only exception was the association between touching others (TO) and exposure (E).

Table 9.

SASBA Category Correlations (Kendall's Tau)

	VC	*NC*	*E*	*TO*
Variables	τ_b			
Verbal Comments (VC)	-	-	-	-
Non-Contact (NC)	.53**	-		
Exposure (E)	.33**	.49**	-	
Touching Others (TO)	.47**	.53**	.28**	-
Total score	.73**	.60**	.47**	.70**

** Correlation is significant at the 0.01 level (2-tailed).

Exploring Predictive Factors

Before running logistic regression, individual factors were explored to identify associations between factors and SASBA recordings. Most constructs did not predict SASBA recordings. Non-predictors were: the presence of comorbidity, all present ICD10-diagnoses (excluding F20-F29), age, and presence of previous sex offence history, offence type and victim type. There was a significant association between F20-F29 diagnoses (e.g. schizophrenia, schizotypal disorder, delusional disorders, schizoaffective disorders, etc.) and SASBA recordings, $\chi^2(1) = 5.37$, $p < .05$. There was an even stronger association with prior ISB history and SASBA recordings, $\chi^2(1) = 10.583$, $p < .001$. These two factors were then included in the logistic regression, see table 10.

Table 10.

Predictors of SASBA Recordings (95% BCa bootstrap confidence intervals based on 1000 samples in brackets).

	b	SE *B**	Wald χ^2	*P*	Odds Ratio	95% CI for Odds Ratio	
Constant	.39 (-.97, .19)	.28	1.99	.032*	-	-	-
ISB History	1.66 (.81, 3.05)	.50	10.82	.001***	5.27	1.96	14.17
F20-F29 Diagnosis	-1.00 (-1.81, -.34)	-0.04	6.85	.009**	.37	0.17	0.78

R^2 = .13 (Cox-Snell), .17 (Nagelkerke). Model χ2 (2) = 18.68, *p*=.000. Standard errors based on bootstrap samples. *P<.05 ***p<.01,* *** *p<.001*

The final regression model was significant, $\chi^2(2) = 18.68$, $p<.001$. The Hosmer and Lemenshow Test (Hosmer & Lemenshow, 1980) suggested that the model was a good fit for the data p=.30 (>.05). The odds ratio for ISB shows us that those with a history of ISB were 5.27 times more likely to have SASBA recordings than those without prior ISB. The odds ratio for the presence of F20-F29 was .37, suggesting that those with the diagnosis were 37% less likely to have SASBA recordings. The odds ratio was not a useful indication in this case, as the presence of F20-F29 was being compared to all other diagnoses, none of which were found to be predictive in isolation. Of those patients with the F20-F29 diagnosis, 51% had SASBA recordings. Therefore, the odds of having SASBA recordings with this diagnosis was approximately 50:50 chance. Including both ISB and F20-F29 variables in the model predicted that 86 patients would have SASBA recordings based on the presence of these factors (see table 11). The model correctly identified 61 patients with SASBA recordings but misclassified 25 clients by predicting they would have SASBA recordings when they did not. Similarly, the

model predicted that 51 patients would not have SASBA recordings based on these factors. The model was correct for 29 patients but misclassified a further 22 patients. Overall, the model correctly identified 54% of patients without SASBA recordings and 74% with SASBA recordings (overall predictive accuracy of 66%).

Table 11.

SASBA Prediction with Variables: F20-F29 Schizophrenia Schizotypal and delusional disorders), and Prior ISB History.

	Predicted (No)	Predicted (Yes)	Percentage correct
Observed (No)	29	25	54
Observed (Yes)	22	61	74
Total	51	86	66

Group Difference -Frequencies

Exploratory analysis using the Kolmogorov-Smirnov statistic highlighted that each group was significantly non-normal for both Non-violent (NV) and Violent (VI) inappropriate behaviours. Homogeneity of variance was also violated, as measured by significant results on Levene's test; this occurred for both untransformed and transformed data (e.g. log and square root transformations). On this basis, it was not possible to test for differences in the group means using parametric statistics on either the original data set or transformed data. Instead, the non-parametric Kruskal-Wallis test was used to examine differences based on ranked data. Two outliers were also removed before the analysis.

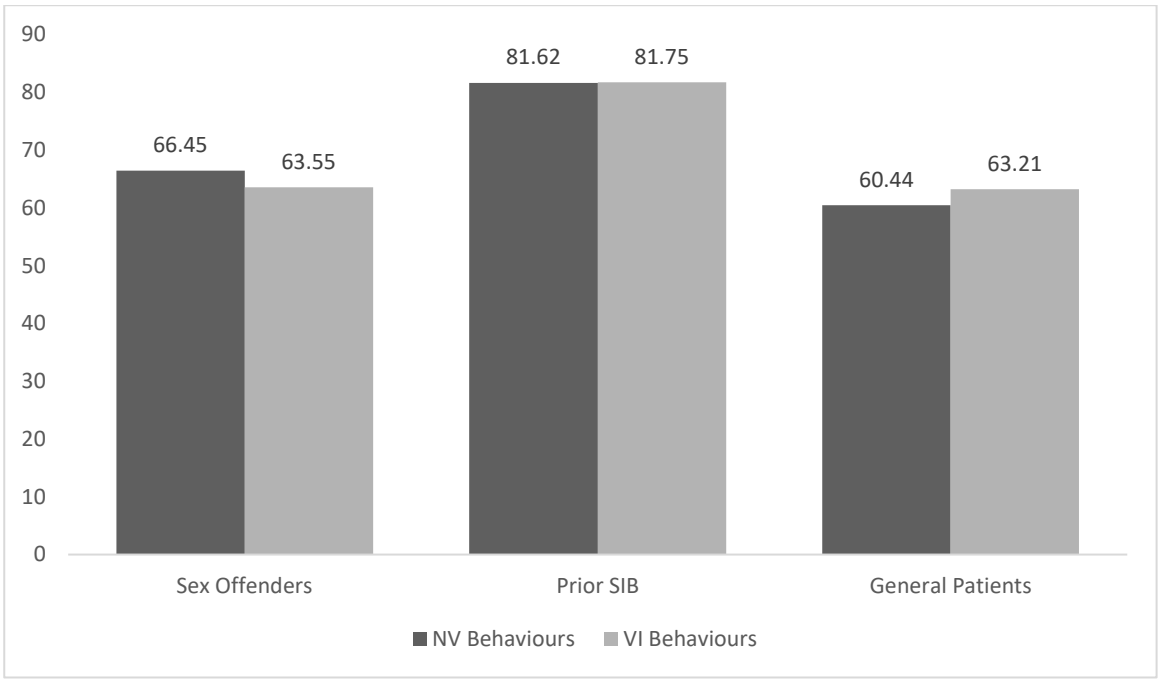


Fig 2. Mean Ranks (Non-Violent & Violent SASBA Recordings)

The Kruskal-Wallis test revealed that there were significant group differences for NV behaviours, *H* (2) = 12.906, *p*=.002. The mean ranks for groups are displayed in Figure 2. Pairwise comparisons (with adjusted Bonferroni correction), showed that there were no significant differences between the sexual offence group and general patients (*p*=.457, *r*=-.744). There were significant differences between general patients and those with a prior history of ISB (*p*=.001, *r*=-3.479), and between the sexual offence group and those with prior history of ISB (*p*= .005, *r*=2.798). Like NV behaviours the Kruskal-Wallis test revealed that there were significant group differences for VI behaviours, *H* (2) = 8.613, *p*=.013. The mean ranks for groups are displayed in Figure 2. Again, pairwise comparisons (with adjusted Bonferroni correction), showed that there were no significant differences between the sexual offence group and general patients (*p*=.788, *r*=-.268). There were significant differences between general patients and those with a prior history of ISB (*p* =.006, *r*=-2.737), and between the sexual offence group and those with a prior history of ISB (*p*=.013, *r*=.2.485).

Discussion

Overall, 61% of participants in a general mental health sample displayed ISB over a six month period. Over half of those patients with prior sexual offending displayed ISB; however, there were no significant differences between patients with prior sexual offending and general patients. The third group with the previous history of ISB (e.g. sexual offence allegations or sexually inappropriate behaviours in hospital settings) had significantly more violent and non-violent ISB. To explain these results, it is necessary to consider the appropriateness of the SASBA tool, the complexity of distinguishing between convicted and non-convicted sex offenders, self-regulation, and the influence of psychotic diagnosis.

Before doing so, it is important to highlight the increased rate of SASBA recordings found in the present study. O'Shea et al. (2016) found 17% of the overall sample had one or more SASBA recordings, compared to 61% in this study. There was a key difference between the SASBA data in both studies. In the present study, the original data was collected by frontline staff using SASBA recording/tally sheets that were easily accessible and were later transposed by psychology staff onto personalised SASBA spreadsheets. The original recording was estimated to take between two to five minutes per incident to record, depending on the level of detail of the incident.

In contrast, for the O'Shea at al study, researchers did not use original SASBA data. Instead, they searched nursing notes and summaries retrospectively assigning SASBA categories to these notes. It is possible that given the competing demands of frontline staff that some information (e.g. frequencies of incidents) would have been lost when writing nursing summaries. Furthermore, the O'Shea et al. study also included female patients and had a larger overall sample.

SASBA Scale

The SASBA tool was not designed specifically for sexual offenders. It was developed to measure overt ISB in patients with acquired or progressive neurological impairments (Knight et al., 2008). Despite this, just over half of the patients with prior sexual offending displayed one or more SASBA recordings. While this indicates that some sex offenders display ISB within institutions, the prevalence of violent and non-violent ISBs was similar to general patients. It is possible that the tool was too sensitive for general patients and not specific or relevant enough to measure sexual offending risk.

Rather than implementing the SASBA on entire wards, it would be better utilised with specific individuals with the presence of predictive factors (previous ISB history and presence of psychotic illness). This could be used to monitor treatment progress and to inform risk formulations. In each case, frontline staff should be made aware of specific behaviours that indicate risk in those individuals, to prevent overestimating risk. The tool is sensitive, and some of the low-level behaviours (e.g. personal comments of mild severity) could be a product of the environment rather indicating risk. Irrespective, the research has shown that the majority of patients with prior sexual offending did present with ISB within this institution. It is unclear to what extent the ISBs are related to risk of re-offending. To date, there has been no research examining the association between these institutional behaviours and subsequent re-offending. Therefore, caution must be taken to avoid attributing high numbers of ISB to the risk of re-offending.

The present study only looked at the frequencies of ISB using this tool. The SASBA was originally developed to allow continuous monitoring of the behaviours, antecedents and consequences for individual patients (Knight et al, 2008). This data, combined with post-incident behavioural chain analysis (BCAs) would be useful methods of assessing

offence paralleling behaviours (OPB) given that OPB theorists recommend looking at behavioural sequences (Daffern et al., 2007).

Conviction Data & Patient Heterogeneity

In this study, participants were divided into group categories depending on the presence of previous sexual offences or ISB history. One possibility for the finding that patients with prior sexual offending displayed similar ISB to general patients may relate to the use of official conviction data. We already know that many crimes still go unreported and unpunished (Office for National Statistics, 2017). Some sex offenders have been shown to have well-developed detection and conviction evasion skills (Jones, 2010, & Jones, 2004). It is possible that some of the general patients had sexually offended but not been caught.

The most common diagnoses present within the sample were related to psychosis; however, many patients also had diagnoses of adult personality and behaviour and mental retardation. Furthermore, 64% had co-morbidities, all of which could be influencing the results. Subsequently, even if each participant was correctly assigned to their group category based on past offence or lack of offence, it is possible that group differences observed are due to other factors. The study was not helped by the use of convenience sampling; which suffers from a lack of generalisability (Phua, 2004).

Descriptive statistics were also provided in Table 7., to highlight the variances within each group based on the raw data. Of course, these results may also have been affected by the two main outliers that were also identified within the ISB group. This is why the final tests of difference were completed after removing these outliers. Nonetheless, the patients with a history of ISB were the most heterogeneous, followed by general

patients, followed by the sexual offence group. This is an interesting finding, given that sexual offenders are generally considered to be a heteregoenous group, as will be dicussed.

Interestingly, there were higher rates of psychosis in the general offenders and the ISB group, which may also influence the reporting and recording of sexual offences. It is possible that patients with personality disorders were deemed more personally responsible than psychotic patients, who may have been perceived as unwell, thus avoiding detection and conviction. Research in America has found that diagnosis of schizophrenia and schizoaffective disorders were the most common diagnoses in cases of sexual offending behaviours that were not prosecuted on the grounds of insanity (Novak et al., 2007).

Self-Regulation and the Influence of Psychotic Diagnosis

The SASBA tool includes behaviours that could be planned or impulsive. While there were likely to be patients who display ISB purposely, given the negative consequences and restrictions which result from these behaviours in closed settings, it is likely that most patients displaying ISB were impulsive or dysregulated. Impulsivity is known to be linked with sexual offending (Mann, Hanson, & Thornton, 2010). However, sex offenders are a heterogeneous group (Marshall, Anderson, & Fernandez, 1999), and while some do have problems with self-regulation, others are more controlled (Ward & Hudson, 1998, 2000). Furthermore, the environment has been shown to affect how sex offender risk factors manifest (Thornton et al., 2008), therefore even those who are more impulsive outside hospital may behave differently within a restricted environment.

Ward and Hudson's (1998, 2000) self-regulation model considers the heterogeneity of paedophiles but suggests that these sex offenders are, in fact, goal-directed in their behaviour. The model suggests there are four main pathways related to sexual offending: 1. An avoidant-passive pathway whereby the offender attempts to inhibit the desire to offend but is disinhibited or under-regulated. 2. An avoidant-active pathway, again the offender attempts to inhibit the desire, but they use ineffective goals to achieve this. 3. An approach-automatic pathway where the offender is motivated to offend, but they are impulsive. 4. An approach-explicit pathway where the offender is both motivated to offend and has good self-regulation. This model was also found to apply to other offender sexual offender types such as rapists and incest offenders (Yates & Kingston, 2016). Rapists were found to adopt the approach-automatic pathway more frequently, whereas paedophiles showed more varying pathways but were more likely to adopt the approach-explicit pathway. The fact that many sex offenders are controlled may explain why the sex offender group in this study did not have significantly more ISB behaviours.

Unfortunately, without examining the pathways of the individual patients with sexual offences in this sample, we have to treat the sex offender group as a heterogeneous group with a combination of self-regulated and dysregulated offenders. However, the fact that the ISB group had significantly more SASBA recordings suggests that the sexual offence group were less impulsive than the ISB group. Having a psychotic illness was found to a be a further predictive factor, and this diagnosis was more prevalent in the ISB group. This finding suggests that psychotic illness may be affecting self-regulation, leading to more sexually impulsive behaviours in the ISB group.

There is already an established link between psychotic illness and sexual offending. One of the earliest and most influential theories of sexual offending by Finklehor (1984)

proposed that psychosis made it harder for child sex offenders to resist sexual urges. Furthermore, Sahota and Chesterman (1998) suggested that sex offenders with psychosis are similar to general sex offenders, but that symptoms (e.g. chaotic thinking, command hallucinations, increased arousal, and poor social functioning), increase motivation to offend and enable the offender to overcome inhibitions.

Summary and Recommendations

This research has shown that general mental health patients display non-violent and violent inappropriate sexual behaviour across differing levels of security, despite the restrictions placed upon them. Over half of the patients with prior sexual offending displayed these behaviours; however, the lack of a significant difference between them and general patients suggests that other factors such as history of previous ISB and psychotic disorder were more relevant than previous sexual conviction.

It is recommended that SASBA is not routinely used with all patients. The presence of a sexual conviction in the absence of ongoing sexually impulsive behaviour is not justification for use of such a measure, nor does lack of a conviction negate proper use of this tool. The tool should be used on a case-by-case basis, with impulsive patients (e.g. those with a history of repeated sexually inappropriate behaviour or convictions), particularly if they have a psychotic illness which presents with symptoms of heightened arousal or mania. The tool can be used to monitor changes in the patient's presentation, by accurately recording the antecedents and consequences of ISB behaviours and to identify offence paralleling behaviours or treatment target behaviours. However, it is also important that clinicians consider medical and cognitive factors that might be influencing this observable behaviour; to overcome the limitations of this simplistic A-B-C model of behaviour.

Given the finding that many sex offenders did not display overt ISB behaviours (44%), future research should focus on identifying other behaviours which indicate risk of sexual re-offending (e.g., preoccupation with images of children in magazines or on TV). In the interim, a follow-up study will be conducted to explore in more detail the presence of ISB within the sample of patients with psychotic illness.

Chapter V. Study II- Follow-up Study

Inappropriate Sexual Behaviour and Psychosis within Secure Psychiatric Services: An evaluation of St Andrew's Sexualised Behaviour Assessment (SASBA).

Abstract

This follow-up study used a retrospective cohort design to examine Inappropriate Sexual Behaviours (ISB) in a sample of patients with psychosis (n=72). The St Andrew's Sexualised Behaviour Assessment (SASBA) was used to measure ISB routinely within a private mental health hospital. The most common diagnoses were paranoid schizophrenia, schizophrenia and schizoaffective Disorders. The most frequent behaviours were inappropriate sexual comments, followed by non-contact behaviours, touching others, and then exposure. Incidents of higher severity (violent recordings) were recorded less than those of lower severity (non-violent recordings). SASBA data was then combined with general patient information, and item data from Historical Clinical Risk Management-20 Assessments, to identify predictive factors. Multiple individual factors were associated with non-violent and violent ISB categories. Binary logistic regression was conducted to predict non-violent sexual behaviours. This model was significant, correctly identifying 96.4% of cases with non-violent SASBA recordings, and with the overall predictive ability of 72.9%. The odds of displaying these behaviours were significantly increased for those with past substance abuse, recent symptoms of mental disorder, or a history of sexually inappropriate behaviour. Thus providing some indication of patients for whom SASBA may be a useful monitoring tool. A model for violent sexual behaviours was not significant; with some possible explanations and future recommendations provided.

Introduction

The primary study in chapter *IV* found that presence of psychotic illness was associated with the presence of Inappropriate Sexual Behaviour (ISB) in a group of general mental health patients who had been screened using The St Andrew's Sexualised Behaviour Assessment (SASBA; Knight et al., 2008). The present study is a follow-up to examine in detail, SABSA scores for patients with a psychotic illness. The link between mental illness and ISB is complex due to the heterogeneity of mentally disordered patients and sexual behaviours (see Chapter *I).* The impact of psychosis on sexual behaviour is equally complex. There are patients with psychosis who are without sexual convictions or ISB, there are psychotic patients who sexually offend, and then there are those who do not offend but who display ISB. It is also possible that some psychotic patients may be accused of sexual offences but are innocent.

Much of the evidence exploring the prevalence of sexual offending and psychosis appears to come from outside the United Kingdom. Nevertheless, this does provide some indication of the incidence within society, albeit subject to cultural and legal differences. One large-scale Swedish study examined a sample of 8,495 convicted sex offenders and compared this to a general population control group. Sex offenders were more likely to have a diagnosis of mental illness and were six times more likely to have a history of psychiatric hospitalisation (Fazel, Sjostedtm, Langstrom, & Grann, 2007).

Studies from the United States have tended to examine mental illness in the most serious sexual offenders, persons referred to as Sexually Violent Predators (SVPs). To lawfully meet this criterion offenders must have had convictions of a sexually violent predatory offence against two or more victims (either strangers or groomed victims) as well as the presence of a formally diagnosed mental disorder (Vess, Murphy, & Arkowitz, 2004). Samples of SVPs show a higher prevalence of diagnoses such as substance abuse

disorder, personality disorders, and paraphilias, but less evidence of major mood disorders or psychotic disorders (see Singer, Maguire & Hurtz, 2013). This is not to say that individuals with psychosis or mood disorders cannot be SVPs; one study found that 20% of their SVP sample (n=42) were diagnosed with major mood or psychotic disorder (Leib & Nelson, 2001). However, when SVPs were compared to other detained patients within secure hospitals, they were found to be less psychotic and more psychopathic (Vess et al., 2004).

In contrast, higher rates of psychosis have been found in those with problematic sexual behaviours, who were not otherwise classified as SVPs. A study examining archival data for 245 American psychiatric inpatients with problematic or illegal sexual histories, found 67% had a diagnosis of psychiatric disorders, as well as other co-morbidities. Furthermore, the majority of these patients were admitted as voluntary patients following the dismissal of official legal charges, were found guilty due to insanity, or were incompetent to stand trial (Stinson & Becker, 2011).

A large-scale American survey of 17,248 incarcerated offenders explored whether mental illness affected violence or crime type. Offenders with mental illness were more likely to commit sexual offences than other offences such as physical assault or theft (Silver, Felson, & Vaneseltine, 2008). An even larger Danish study examined the lifetime prevalence of arrests for sexual offences in men and women with psychosis. A survey of 358,180 people revealed that persons with psychosis were more likely to be arrested for non-physically aggressive sexual offences, such as voyeurism or exhibitionism compared with physically aggressive acts, such as rape or paedophilia. It is when psychotic disorders run concurrently with co-morbid personality disorders and substance misuse that an association with increased risk of sexual offending with and without physical aggression is observed (Alden, Brennan, Hodgins, & Mednick, 2007).

Studies have suggested a generally low rate of sexual offending in those diagnosed with schizophrenia (Alish et al., 2007). The overall prevalence, as described in a recent review by Lewis and Dwyer (2017), suggests that psychosis in the wider sexual offending population (approx. 5%-10%), is lower than those admitted to specialist hospitals/forensic units (approx. 16%). The authors caution that current data only indicates this frequency because many incidents go unreported. These figures provide some explanation as to why this area had not been widely researched and highlights the need for further exploratory work, especially within the United Kingdom (UK).

Regardless of the true figure, there is a subgroup of individuals with psychosis and sexual offending histories. What remains to be explored, is whether it is the symptoms of the disease that increases sexual risks, or whether there is some pre-existing deviant behaviour regardless of the mental illness, or whether it is a combination of both.

Firstly, it is important to clarify the term 'psychoses'. In the most recent version of the International Classification of Diseases and Related Health Disorders (ICD-11; 2018) 'psychosis' refers to the category: Schizophrenia and other primary psychotic disorders (including schizophrenia, schizoaffective disorder, schizotypal, delusional disorder etc.). A recent literature review identified 19 papers by searching the terms: 'sexual offending and psychosis', 'sexual offenses and psychotic disorders', and 'mental illness and sex offending' (Lewis & Dwyer, 2017). Papers identified direct and indirect links with sexual offending and psychosis. There was much less evidence for the presence of direct delusions or command hallucinations, although these were present in a few cases (e.g. Smith & Taylor, 1999; Jones, Huckele & Tanaghow, 1992). There was evidence of an indirect link between heightened arousal, chaotic thinking, and poor social thinking, and hostility (Sahota & Chesterman, 1998). Furthermore, in those cases where

hallucinations and delusions were present, it was suspected that for some men there was pre-existing sexual deviancy that was later incorporated into these psychotic symptoms (Smith & Taylor, 1999). More recently, specific risk factors for sexual offending amongst those with psychosis have been identified as hostility, cognitive distortions, deviant sexual fantasies, and poor social skills. The presence of these factors has highlighted how while there is not always a direct link between psychosis and sexual offending, psychosis appears to be a disinhibiting factor (Fazel et al., 2007).

In support of this, a study examined self-regulation in sex offenders in a forensic hospital. It was found that cognitive and emotional regulation predicted general offending, whereas only cognitive dysregulation predicted sexual behaviour. Emotional dysregulation referred to mood states (e.g. depression), whereas cognitive dysregulation referred to any the following: disorganised thoughts; problem-solving deficits; distorted beliefs; and abstract thinking (Stinson, Robbins, & Crow, 2011). These symptoms of cognitive dysregulation are common in psychotic disorders.

Research has also highlighted how sex offenders with schizophrenia may offend due to social isolation and interpersonal difficulties (e.g. initiating contact with potential partners), as well as sexual fantasies which motivate sexual offending. Therefore, sex offenders with schizophrenia may be 'opportunistic offenders' who offend to meet immediate sexual needs (Smith, 2000).

One study compared sex offenders with schizophrenia, general schizophrenia patients who were not sex offenders, and general sex offenders without schizophrenia (Alish et al. 2007). The study found that that those sex offenders with schizophrenia did not appear to be a distinct clinical entity, rather an amalgamation of two separate phenomena (sexual offending and schizophrenia). The psychotic sex offenders had

similar symptomology to those who were psychotic but were not sex offenders, and similar offending to those without psychosis. Furthermore, in terms of personality, sex offenders with schizophrenia were more similar to the general sex offenders, than to the general persons with schizophrenia. Lastly, in this study, only one of 36 sexual offences seemed explicitly related to overt psychotic symptoms (e.g. hallucinations, delusions and paranoia).

As well as being 'opportunistic offenders', studies have suggested four trajectories for psychotic sexual offenders (Drake & Pathe, 2006): 1. Individuals whose psychotic illness leads to their deviant sexuality; 2. Individuals with psychosis who also have pre-existing paraphilia; 3. Individuals with psychosis who also have anti-social behaviour that leads to their deviant sexuality; and 4. Individuals with co-morbid substance misuse. The preceding evidence suggests that sex offending in individuals with psychosis is also mediated by other factors (e.g. substance misuse, paraphilia, personality disorder or psychopathy, etc.). What about the sexual behaviour of those who are not convicted or do not have these mediating factors? How does psychosis affect sexuality in general patients?

Traditionally, the UK has been slower than our European and American counterparts when focusing on issues of sexuality. However, there has been an increasing focus on this topic within psychiatric institutions in the UK and Ireland, with researchers such as Edward McCann focusing specifically on the sexual and relationship needs of individuals with psychosis. An earlier study in this area explored the experiences of 11 inpatients with schizophrenia on a mixed, locked hospital ward in London. When inpatients were asked why they were not engaging in sexual relations, the main reasons identified were not surprising, e.g. illness of self, and lack of opportunity (McCann, 2000). These results were later contrasted with a community sample of 30 individuals with psychosis living

in the London community, which revealed similar barriers, e.g. illness of self, lack of opportunity, and additionally, separation/divorce. Furthermore, there were large differences between care staff and service users' perceptions of sexual need and sexual expression. Most patients (90%) identified some need concerning sexual expression, whereas staff gave this a very low priority. This research also highlighted staff discomfort in discussing sexual issues, resulting in such matters being ignored (McCann, 2010).

A qualitative review spanning a decade has illustrated how psychosis is a barrier to the expression of both sexuality and intimacy (de Jager & McCann, 2017). Fifty-six studies were reviewed with some key findings being:

- Individuals with psychosis were found to have similar sexual needs, interests and fantasies as other individuals, although there was some evidence that sexual obsessions were more prevalent in those with psychosis.
- Individuals with psychosis often experienced sexual dysfunctions because of psychotropic medication and were at greater risk of sexually transmitted infection.
- At least a quarter of people with psychosis experienced stigma/discrimination, and they often had fears of rejection leading to social withdrawal and avoidance of sexual or intimate relationships.
- There was a greater representation of studies focusing on biological as opposed to sociocultural and psychological aspects of sexuality.

Much of the existing research tends to focus on the sexually deviant behaviour of sexual offenders, and the sexual needs of general psychotic patients, but there appears to be

a neglected area; those with psychosis who are sexually inappropriate/disinhibited because of their illness, but are not recognised as sexually deviant.

The present study will use SASBA to measure Inappropriate Sexual Behaviour (ISB) in a sample of inpatients with a psychotic illness (offenders and non-offenders). The aims of the study were:

1. To examine the relationship between patient group (e.g.sexual offence group, general patient, and those with a previous history of ISB) and presence of SASBA recordings in those with psychotic illness.
2. To examine the relationship between the sub-categories of SASBA.
3. To explore factors associated with the presence of SASBA recordings in those with psychotic illness.
4. To test for group differences between non-violent SASBA recordings and violent SASBA recordings.

Method

Institution

The present data is a subsection of the research database used in the primary study (chapter *IV*). The original data was compiled using clinical records from the Men's Mental Health pathway within St Andrew's Healthcare, Northampton, United Kingdom. St Andrew's provides secure mental health inpatient care across multiple sites. The original SASBA data used within this study were collected from inpatients between February 2008 and February 2015.

Participants

Eligible participants were male patients from general mental health wards whose psychology records were available to view in shared drive psychology folders between June 2017 and December 2017. Only patients with a diagnosis of F20-F29: Schizophrenia, schizotypal and delusional disorders (using the previous diagnostic categories ICD-10) were selected for inclusion in the study.

Procedures

This was a follow-up study using the original database from the primary study. Hence similar procedures applied. A retrospective evaluation was conducted using routinely collected archival data. SASBA data and offence information was extracted by the author of the present study from available patient psychology records. Only the first six months of SASBA data was collected for each participant. This was typically recorded during the first six months of admission except for patients who were residents before the introduction of the SASBA tool. In the original study, SASBA information was combined with offence data collected from psychology records along with data extracted

from RIO records by the by St Andrew's Management Information team (e.g. demographic information, age, legal status, level of security, and the International Classification of Disease-10 (ICD-10) diagnosis). In this case, the same data was used, and additional risk factors identified in the original Historical-Clinical-Risk Management-20 reports. The HCR-20 documents were updated routinely every six months; therefore, the version that matched the period of SASBA collection was reviewed.

St Andrew's Management Information team were approached to obtain medication information, but due to other commitments within the Charity, the team were unable to obtain this information in time. It was possible to determine if patients were using psychotropic/antipsychotic medication from psychology records, but not which type.

Ethics

The same ethics application applied to both the primary and follow-up study. See Chapter *IV*.

Measures

In both the primary study and the follow-up, the main sources of information within patient psychology, records were the same: progress reports, treatment reports, and Historical-Clinical-Risk Management-20 (HCR-20) documents. In addition to providing detailed psychosocial information, the latter also allowed the identification of empirical risk factors for general violence as either 'not present', 'present' or 'partially present'. As an extension of the primary study, HCR-20 risk items were included as predictive risk factors. To be clear, the HCR-20 items chosen for the present study were not included based on any *a priori* knowledge or theory about ISB. They were selected

because the study was restricted by its retrospective nature and access to available data within psychology records.

The HCR-20 provided the most consistent information regarding psychosocial history for each patient. It was also interesting to explore if any known risk factors for general violence, were also associated with ISB in this study. The original HCR-20 Version 2 (Webster, Douglas, Eaves, & Hart, 1997) was replaced in 2013/2014 by Version 3 (Douglas et al., 2014). Due to the SASBA data spanning the years 2008-2015, there was a mixture of HCR-20s versions available for participants within the sample. The majority of cases had version 2 documents (94%). Only risk items present in both HCR-20 versions, and those that were very similar (so combined into one item) were included as potential risk factors for ISB in the present sample. There was one exception, related to H7 Psychopathic, which was included due to the importance of the factor in previous research (see Tables 12, 13, and 14).

Please note: HCR-20 documents were only available for 82% of cases (59). In the remaining cases, the absence of HCR-20s was coded as missing data. The implications of missing data will be provided in the final discussion.

Table 12.

HCR-20 Static Risk Items and Inclusion in Current Study (Historical Risks)

HCR-20 (V2)	HCR-20 (V3)	Included Y/N
H1. History of Problems with Violence	H1. History of Problems with Violence	Y
~~H2. Young Age at First Violence~~	~~H2. *Replaced by* Other Anti-social Behaviour~~	N
H3. Problems with Relationships	H3. Problems with Relationships	Y
H4. Problems with Employment	H4. Problems with Employment	Y
H5. Substance Misuse	H5. Substance Misuse	Y
H6. Major Mental Disorder	H6. Major Mental Disorder	Y
H7. Psychopathic	~~H7. Replaced by Personality Disorder~~	Y- Psychopathic Only
H8. Early Maladjustment	H8. *Replaced by* Traumatic Experiences	Combined
H9. Personality Disorder	~~H9. Replaced by Violent Attitudes~~	Y- Personality Disorder Only
H10. Treatment or Supervision Response.	H10. Treatment or Supervision Response.	Y

Table 13.

HCR-20 Dynamic Risk Items and Inclusion in Current Study (E.g. Clinical Items)

HCR-20 V2	HCR-20V3	Included Y/N
C1. Problems with Insight	C1. Problems with Insight	Y
C2. Negative Attitudes	C2. *Narrowed to* Violent Ideation or Intent	Combined
C3. Symptoms of Major Mental Disorder	C3. Symptoms of Major Mental Disorder	Y
C4. Instability (Affective, Behavioural and Cognitive)	C4. Instability (Affective, Behavioural and Cognitive)	Y
C5. Unresponsive to Treatment	C5. *Replaced by* Treatment or Supervision Requirement	Combined

Table 14.

HCR-20 Dynamic Risk Items and Inclusion in Current Study (E.g. Future Risk Items)

HCR-20 V2	HCR-20V3	Included Y/N
R1. Plans Lack Feasibility	R1. Problems with Professional Services and Plans	Combined
R2. Exposure to Destabilisers	R2. Problems with Living Situation	Combined
R3. Problems with Personal Support	R3. Problems with Personal Support	Y
R4. Non-compliance with Treatment	R4. Treatment or Supervision Compliance	Combined
R5. Problems with Stress of Coping	R5. Problems with Stress or Coping	Y

Original data was captured during routine practise using the SASBA tool. SASBA was originally developed by Knight et al. (2008), for use with patients with neurological impairment; however, it was applied within other services of St Andrew's between 2008 and 2015. SASBA is a standardised recording instrument for the measurement of ISB. The assessment allows continuous observation of inpatient behaviours on four categories of ISB: verbal comments (VC), exposure (E), non-contact behaviours (NC), and touching others (TO). Each category has four levels of severity (1-4). The statistical properties of the tool were determined by using video enactments and written descriptions of ISB that were generated by clinicians. SASBA was found to have strong construct and content validity, and good inter-rater and test-retest reliability. Similarly, to the primary study, the raw data was also categorised into non-violent ISB (NV Behaviours) and violent ISB (VI Behaviours) which were introduced by O'Shea et al. (2016) in their study (see chapter IV for further details and example behaviours).

Analysis

IBM SPSS Statistics was used to analyse the data. To measure ISB, descriptive statistics were generated for total SASBA recordings, SASBA sub-categories (VC, NC, E, TO), and NV and VI Behaviours. To test for normality, Kolmogorov-Smirnov tests were carried out. As is often the case with real-world research, the present data were not normally distributed. To overcome issues of normality, correlational and non-parametric tests were employed, which did not require the assumption of normality (Field, 2018).

Results

Sample Characteristics

The sample consisted of 72 male inpatients from general mental health wards (low, locked and medium secure) with a mean age of 42. All inpatients were selected on the basis that they had a diagnosis of F20-F29: Schizophrenia, schizotypal and delusional disorders. The most common diagnoses were F20: Paranoid Schizophrenia (57%), F20: Schizophrenia (15%) and F25: Schizoaffective Disorders (10%). In terms of co-morbidity, 33 (46%) of patients only had the psychosis related diagnosis; the remaining 39 (54%) had two or more diagnoses. The majority of the sample were white British (68%). Of these patients, 33 (46%) were general patients, 21 (29%) had a history of inappropriate sexual behaviour, and 18 (25%) were patients with prior sexual offending. Of the 18 patients with prior sexual offending, 16 had contact offences. The majority of contact offences involved adult victims (56%), the remaining offenders had offended against children (31%) or both children and adults (13%).

Descriptive Statistics

Just over half of the participants had at least one SASBA recording. In total, 36 participants displayed 822 individual incidents recorded using the SASBA tool over a 6-month period. Most recordings were verbal comments (306), followed by touching others (276), non-contact behaviours (171) and exposure (69). The SASBA items were grouped into two further categories of non-violent but inappropriate behaviours (648) and violent and inappropriate behaviours (174). Overall, there was a low rate of ISB presence in psychotic patients with sexual offences irrespective of offence type. Of all patients with the presence of SASBA recordings, 18.9% had contact sexual offences, and 2.7% had non-contact offences. Of those with non-violent recordings, 20.6% had

contact offences, and 2.9% had non-contact offences. Lastly, of those with the presence of violent recordings, 8.7% had contact offences, and 4.3% had non-contact offences.

Table 15.

Descriptive SASBA Recordings (Whole Sample)

	Presence (1 or more recordings)			
	Yes		No	
Group	N	(%)	N	(%)
Any SASBA Recordings	37	51	35	49
Non-violent SASBA	34	47	38	53
Violent SASBA	23	32	49	68

A further patient (outlier) had 879 SASBA recordings within the same period. The majority of these were non-violent (584) as opposed to violent (295). This patient had a diagnosis of schizoaffective disorder and no diagnosed co-morbidities. He had a prior history of ISB but was not a sexual offender. This outlier was not removed in the initial stages of analysis because the statistical analysis employed, used categorical data (e.g. presence of a factor, 'yes or no') as opposed to continuous data (e.g. numbers of recordings). However, this case was excluded from the final analysis.

Group Differences – Presence of SASBA

The ISB group had the highest number of participants with recordings. To test whether there was a relationship between group category and the presence of SASBA recordings, Pearson's chi-square test was conducted (Fisher, 1922; Pearson, 1900). There was no

significant association between group category and presence of SASBA recordings, $\chi 2(2) = 4.785$, p=.091.

Table 16.

Contingency table showing the presence of SASBA Recordings (Per Group)

	SASBA Recordings			
	Yes		No	
Group	N	(%)	N	(%)
Sex Offence Group	8	44.4	10	55.6
History of ISB	15	71.4	6	28.6
General Psychiatric Patients	14	42.4	19	57.6
Total	37	51.4	35	48.6

Relationships between SASBA Sub-categories

The SASBA tool consists of four discrete categories of ISB. Table 17 illustrates the presence of each category rating within the sample, as well as the relationships between each category and the overall scale. Kendall's Tau was used because the data set was non-normal. The significant values for the correlation coefficients were all p<.001, indicating positive relationships between all of the SASBA sub-categories and overall SASBA scores. With the exception of Exposure (E), the effect sizes were all medium/large (>.50); based on Cohen (1988, 1992) who suggested medium (d=0.5) and large (d=0.8) effect sizes.

Table 17.

SASBA Subscales Correlated with Overall SASBA Scores

	Presence in Sample		χ^2	Kendall's Tau
	% No (n=)	% Yes (n=)		
Verbal Comments (VC)	58.3 (42)	41.7 (30)	880.57**	.816
Non-Contact (NC)	73.6 (53)	26.4 (19)	671.05**	.635
Touching Others (TO)	76.4 (55)	23.6 (17)	738.16**	.700
Exposure (E)	81.9 (59)	18.1 (13)	517.56**	.498

**p<.001

Exploring General Factors

General factors assessed were co-morbidity, security level, section, secondary ICD10-diagnoses categories (excluding F20-F29), age, and presence of previous sex offence history, offence type, and victim type. There was an association with prior ISB history and presence of SASBA recordings, $\chi 2$ (1) =4.77, $p<.05$. Cramer's V was .257, suggesting a low to medium effect size overall. A prior history of ISB was also associated with non-violent SASBA recordings, but not with violent SASBA recordings. Additional significant factors are presented in Table 18.

Table 18.

General Predictive Factors

	Recordings within factors		χ^2	Cramer's *V*
	% No (n=)	% Yes (n=)		
General SASBA recordings:				
• History of ISB	28.6 (6)	71.4 (15)	4.77*	.257
Non-Violent SASBA recordings:				

• History of ISB	33.3 (7)	66.7 (14)	4.50*	.250
Violent SASBA recordings:				
• Adult Sex Offender	100 (9)	0 (0)	4.83*	.259
• F70-F79 Mental Retardation	37.5 (3)	62.5 (5)	3.87*	.232

*p<.05

Exploring HCR-20 Predictive Factors

In addition to exploring general factors, all items within the HCR-20 were tested. Items within the HCR-20 were coded as 0= 'not present' or 1 = 'partially present or present'. In addition to exploring the presence of general SASBA recordings, the presence of the sub-categories (violent and non-violent) were also tested. Multiple factors were identified, see Table 19. Effect sizes ranged from small to medium (Cramer's V). Looking at the percentages of recordings within factors suggests whether the presence or absence of factors is significant. Only the items predictive of violent SASBA recordings will be included in the final regression analysis (see Table 20).

It is important to point out that missing data (e.g. absence of HCR-20 items) may also be influencing some of these results. Please note: Item H3 could not be analysed as there were no participants within the sample that scored 0 = 'not present' with the sample.

HCR-20 items included in the non-violent regression analysis were H5: Problems with Substance Misuse, C2: Negative/Violent Ideation, C3: Recent Symptoms of Major Mental Disorder, and R1: Plans Lack Feasibility/Problems with Professionals and Services. These were combined with the only identified general factor, which was a

history of ISB. Including all five factors in the model revealed a significant regression model with increased prediction accuracy, but on closer inspection, two of the factors were not making a significant contribution to the overall model so were removed.

Table 19.

HCR-20 Predictive Factors

	Recordings within factors		χ^2	Cramer's *V*
	% No (n=)	% Yes (n=)		
General SASBA recordings:				
• Factor C3: Recent Symptoms of Major Mental Illness	38.3 (18)	61.7 (29)	7.78*	.363
• Factor R1: Plans Lack Feasibility	37.8 (17)	62.2 (28)	7.13	.348
Non-Violent SASBA recordings:				
• Factor H5: Problems with Substance Misuse	43.9 (18)	56.1 (23)	4.02*	.261
• Factor C2: Recent Negative Attitudes/Violent Ideation	45.8 (22)	54.2 (26)	4.65*	.281
• Factor C3: Recent Symptoms of Major Mental Illness	44.7 (21)	55.3 (26)	5.73*	.312
• Factor R1: Plans Lack Feasibility/Problems with Professionals and Plan	44.4 (20)	55.6 (25)	4.99*	.291

Violent SASBA recordings:				
• C3: Recent Symptom of Major Mental Disorder	57.4 (27)	42.6 (20)	7.73*	.362
• R1: Plans Lack Feasibility/Problems with Professionals and Plan	57.8 (26)	42.2 (19)	5.87*	.315

*p<.05

Table 20.

Predictors of Non-Violent SASBA Recordings (95% BCa bootstrap confidence intervals based on 1000 samples in brackets).

	B	SE *B**	Wald χ^2	*p*	Odds Ratio	95% CI for Odds Ratio	
• Constant	-3.75 (-56.67, 2.14)	1.28	8.64	.003**	-	-	-
• H5: Past Problems with Substance Abuse	1.93 (.53,37.52)	.81	5.67	.017*	6.86	1.46	33.39
• C3: Recent Symptoms of Major Mental Disorder	2.0 (.81, 21.31)	.96	4.33	.038*	7.35	1.12	48.20
• History of ISB	1.97 (.53,37.52)	.77	6.55	.011*	7.15	1.58	32.28

P<.05 **$p<.01$, R^2 = .27 (Cox-Snell), .36 (Nagelkerke)

The final regression model was significant $\chi^2(5) = 18.527$, $p<.001$. The Hosmer and Lemenshow Test (Hosmer & Lemenshow, 1980) suggested that the model was a good fit for the data $p=.511$ (>.05) and the final model correctly identified 96.4% of cases with non-violent recordings (and 51.6% of those without recordings, with an overall accuracy of 72.9%). Presence of these factors also increased the odds of SASBA recordings.

For non-violent SASBA recordings, it was the presence (e.g. score of 1) of individual factors which was associated with ISB. For violent SASBA recordings, this was the case for F70-F79 Mental Retardation; however, the remaining factors were reversed. For example, not being an adult sex offender; not having C3: Recent Symptoms of Mental Disorder; and R1: Plans Lack Feasibility/Problems with Professionals and Plans, were predictive of ISB when explored individually. Including all four factors in the logistic regression analysis resulted in a weak model (low predictive accuracy) which was not significant ($p>.05$). Multiple models were explored, and numerous iterations were attempted (including and excluding different factors), but these results were similar. This suggests a lack of statistical power due to the small sample size and the high number of factors explored. The sample size was particularly small for cases of adult sex offenders (9) and F70-F79 Mental Retardation (n=8).

Medication

As detailed earlier, it was not possible to access the medication records for the sample at the time of the SASBA recordings. However, from the available HCR-20 documents, it was possible to determine that at least 73.6% of participants were receiving psychiatric medication (such as anti-psychotics and/mood stabilisers) around the time

of the recordings. A further 2.8% were on medication-free trials, and the remaining 23.6% had missing information. There was no association between the presence of psychiatric medication and SASBA recordings $\chi^2(1) = 2.152$, $p > .05$.

Group Differences – Frequencies

To test differences in frequencies between groups, the non-parametric Kruskal-Wallis test was used, the data being non-normal (indicated by the Kolmogorov-Smirnov statistic). One case (outlier) from the Prior ISB group was excluded from the analysis due to having individually 879 recordings. Therefore, this test was based on the results of 71 participants. The Kruskal-Wallis tests for NV behaviours, $H(2) = 5.574$, $p > .05$ and VI behaviours, $H(2) = 3.549$, $p > .05$ were both non-significant.

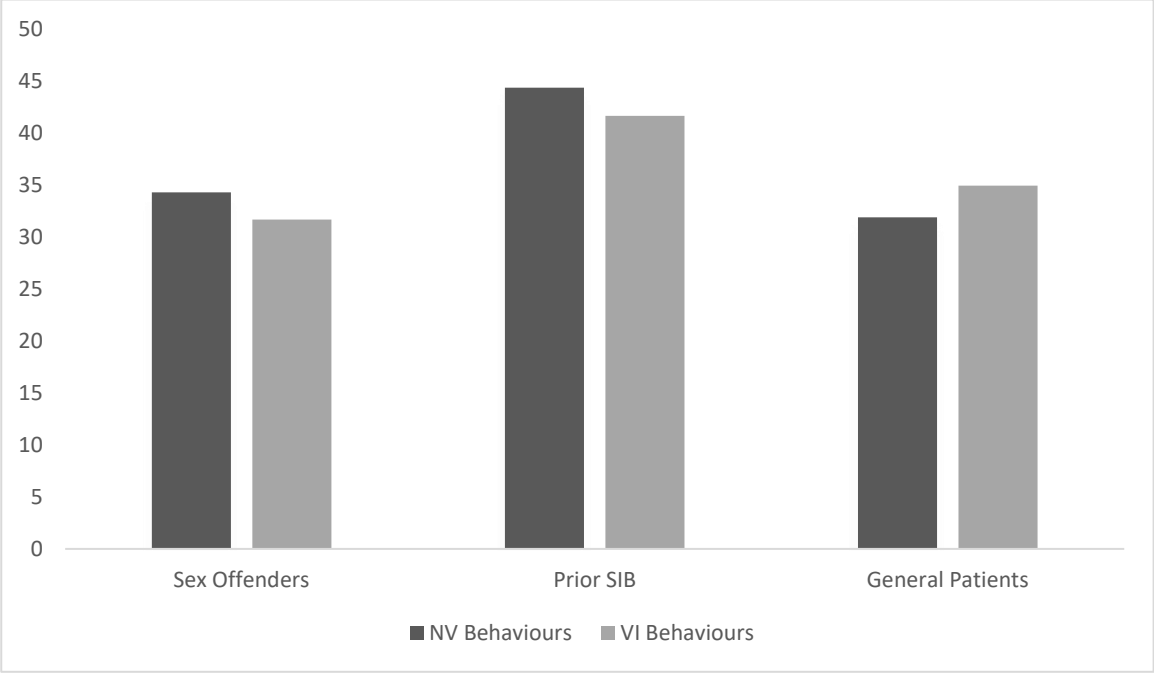


Fig 3. Mean Ranks of NV and VI ISBs per group

Discussion

Overall, 51% of patients with psychosis displayed ISB as measured using SASBA. This finding was lower than the 61% of general mental health patients who displayed these behaviours in the primary study. In this study, there were no significant differences between patients when split by offence history. Again, non-violent SASBA recordings were more common than violent SASBA recordings. There was a higher proportion of general patients without previous sexual risks (46%) in this sample; therefore, it is not surprising that the frequency of SASBA recordings was lower compared with the primary study. The number of patients with prior sexual offending (25%) was also reduced in the current study. However, when compared to other psychotic patients, the prevalence was above the estimates provided (e.g., the 16% suggested in Lewis & Dwyer, 2017).

Several general predictive factors were identified in the current study. For non-violent SASBA recordings, a previous history of ISB was a predictive factor, whereas, for violent SASBA recordings, presence of co-morbid mental retardation was predictive. An interesting finding within the current research was that being an adult sex offender appeared to be a protective factor for presence of violent SASBA recordings. Over half of the patients with prior sexual offending (56%) had offended against adults, and none of these offenders had violent SASBA recordings. Although you might expect sex offenders to engage in more violent ISB behaviours, the tool itself was not designed to detect the sexual behaviours of convicted sexual offenders (Knight et al., 2008).

There were also several HCR-20 predictive factors identified for non-violent SASBA recordings; these were problems with substance misuse; recent negative attitudes or violent ideation; recent symptoms of major mental illness; and plans lacking feasibility or problems with professionals. In contrast, for violent SASBA recordings, the latter

two risk factors appeared to be protective; a lower presence of SASBA recordings was reported in those who had recent symptoms of mental illness and problems with plans and professionals.

Combining general information and HCR-20 risk items generated more predictive factors. However, the significance of many of these was lost when they were combined into regression models. A significant model for violent sexual behaviours could not be produced, suggesting that there may be other factors not present within the study which influence the more violent sexual behaviours or that the revealed effects are slight. Furthermore, it is worth noting that the HCR-20 was developed by Webster et al. (1997), as a general violence risk assessment tool and was not specific to sexual offending. An alternative tool such as the Risk of Sexual Violence Protocol (RSVP; Hart et al., 2003) may have proved equally if not more useful if this had been available at the time of the SASBA recordings. It is also possible that missing data and having a small sample (for the number of factors tested) has reduced the power of the study to produce significant findings. Regrettably, a power analysis was not conducted prior to commencing the study which may have influenced the factors included if completed.

Nevertheless, a model for non-violent SASBA behaviours was significant, using the factors: past substance abuse, recent symptoms of mental disorder, and a history of sexually inappropriate behaviour. This model correctly identified 96.4% of cases with non-violent SASBA recordings, and with overall predictive ability of 72.9%. Conversely, the model incorrectly identified 51.6% of cases, suggesting that the model was too sensitive. Yet, recognising these factors in patients may still give staff some indication of those who are more likely to display SASBA behaviours, and who may warrant further observation using the tool. Overall, these factors were highly significant. Participants with recent symptoms of mental illness were 7.35 times more likely to display non-

violent sexual behaviours. Participants with a history of sexually inappropriate behaviour were 7.15 times more likely to display non-violent behaviours, and those with a previous substance misuse history were 6.86 more likely.

Another factor that could not be fully explored within the study was past problems within relationships, although 100% of participants have had problems in these areas. While it was not possible to assess how this item influenced ISB, the high presence of this factor highlights the extent of relationship difficulties that individuals with psychosis experience.

One obvious weakness of the current study relates to the absence of medication information. The psychotropic medication was present in three-quarters of patients. However, there was no information provided in HCR-20s about the specific medication taken. It is possible that medication influenced sexual behaviours, but this could not be tested. There is existing evidence that suggests psychotropic medication can lead to sexual dysfunction in those with schizophrenia (see Smith & Herlihy, 2011). Some of the ways that psychotropic medication (e.g. anti-psychotics and mood stabilisers) have been shown to affect sexuality include: increased libido, decreased sexual activity, decreased sexual interest, priapism (prolonged erection), and ejaculatory dysfunction (Gitlin, 1994; Rosen & Hanno 1992, Compton, Saldivia, & Berry, 2000; Kim, Pae, & Chae, 2002; & Bobes, Garc, & Portilla, 2003)

Summary and Recommendations

This research has shown that some psychotic patients engage in ISB within psychiatric settings, especially when they have current symptoms of mental illness, a history of engaging in substance misuse, and a prior history of displaying ISB behaviours. All of

which appears to be down to simple disinhibition. These institutional behaviours are not sexual offences, but they are inappropriate for the context, and in the community could result in arrest or a sexual conviction in the more serious examples. However, most frequently patients displayed the less severe non-violent ISB behaviours.

Similarly, to the recommendations for general mental health patients, SASBA should not be routinely used with all patients. The tool may be useful with specific cases, particularly those who display high-frequency risk behaviours in the context of their psychosis. The tool would be useful to monitor changes in sexual behaviour presentation because of medication changes and therapy.

This research was unable to investigate the impact that relationship problems had on ISB behaviours. Future research should seek to distinguish between different relationship needs and barriers, and to identify predictive relationship factors that may be targetable in future treatment. Additionally, further research should measure the impact of medication on ISB behaviours, as well as investigating how different psychological interventions influence these behaviours, particularly those that target interpersonal difficulties and social skills deficits.

Chapter VI. Discussion

Summary of Thesis Aims

Historically, there appears to be a preference in the literature for observing institutional sexual behaviours of those with acquired or degenerative neurological conditions, rather than those who are sexually disinhibited through mental illness. However, this disparity within the literature appears to be changing. As mentioned in the introductory chapter, the Care Quality Commission (CQC) are aware of the widespread and diverse unwanted sexual incidents that occur on mental health wards; highlighting a need to improve both recording and reporting practices (CQC, 2018). Consistent with the CQC report findings, both the primary and follow-up studies herein, have emphasised how mentally ill patients are often sexually disinhibited (e.g. either due to symptoms of mental illness, substance misuse or both.). Some of the individuals within these settings, may in addition to their existing mental health diagnosis, meet the criteria for the proposed DSM 'hypersexuality' diagnosis, but for now, are undiagnosed.

The chapters herewith, attempt to direct the reader to the many challenges clinicians face within forensic psychiatric settings, such as a lack of agreement over sexual behaviour definitions, absence of national policies and reliance on local policies, complex presentations on these wards (e.g. patients with varying diagnoses and comorbidities) and patient mix (e.g. sexual offenders mixed with non-sexual offenders). Not all challenges will be easily overcome; however, consistency in sexual behaviour definitions and improvements in recording practices using recognised tools is achievable.

The overall aim of this thesis was to test the validity of screening for inappropriate sexual behaviours (ISB) within secure psychiatric services, using St Andrew's Sexualised Behaviour Assessment Scale (SASBA; Knight et al., 2008). The tool was

initially developed and piloted within neurorehabilitation services. Nonetheless, it had been extended to mental health wards without formal testing or evaluation. The original SASBA scale was used within the routine practice, but this data had not been systematically collated or analysed. This field data was analysed to determine whether similar displays of disinhibition were present in patients with mental illness across male forensic wards. The fact that many patients had prior sexual offending, provided the added opportunity to examine how these patients presented within institutions and to test for differences between them and the remaining patients with mental illness. The primary purpose of this was identifying with whom SASBA is a more appropriate tool.

Summary of Thesis Findings (Per Chapter)

The primary study (Chapter *IV*) attempted to do this in the following ways: measuring the frequencies of SASBA recordings within a male psychiatric sample; examining the relationship between patient groups (e.g. patients with prior sexual offences were compared to general patients and patients with prior history of ISB); exploring the relationship between subcategories of SASBA; testing for group differences between non-violent and violent SASBA recordings, and examining factors associated with the presence of SASBA recordings. Though ISB is common in cared-for settings, and particularly in forensic settings, there is surprisingly little systematic research of the kind attempted here.

The most significant findings were:

1. An increased rate of ISB was found compared with previous studies (e.g. O'Shea et al., 2016), with 61% of this general mental health sample displaying one or more SASBA recordings;

2. All four categories of SASBA were identified, in order of highest frequency, these were verbal comments, touching others, exposure, and non-contact behaviours. These categories were all positively correlated with each other;
3. Most patients with prior sexual offending had SASBA recordings (56%). However, there were no significant differences between the patients with prior sexual offending and general patients, in the presence of violent and non-violent SASBA recordings. A third group, those with a prior history of ISB but no sexual convictions had significantly more violent and non-violent SASBA recordings;
4. Patients with prior sexual offending had a higher rate of personality disorder (58%) compared with psychotic illness (36%);
5. Patients with a prior history of ISB had a higher rate of psychotic illness (58%) compared with personality disorder (31%);
6. Predictors of SASBA recordings were a previous history of ISB and psychotic illness.

The primary study highlighted that some psychiatric patients express violent and non-violent ISB within institutions, but this is more likely in patients with a prior history of ISB, psychotic illness, or both. Interestingly, having a conviction for a sexual offence did not increase the likelihood of ISB, even though the majority of this group did display one or more SASBA recordings. The finding that patients with prior sexual offending had a higher rate of personality disorder compared with psychotic illness fits with existing research findings that sexually violent predators have tended to be less psychotic, but have a higher prevalence of personality disorders and psychopathy (Leib & Nelson, 2001; Singer, Maguire, & Hurtz, 2013). It is also possible that some individuals with psychotic illness in the sample had committed similar predatory acts, but had not been caught or convicted. The fact that these patients with prior sexual

offending did not differ significantly from general patients suggests that SASBA may have been too sensitive for general patients and not specific or relevant enough for sexual offenders. The SASBA tool measured overt sexual inappropriateness as opposed to covert, paedophilic, or predatory behaviours, which might account for why sexual offending was not a predictive factor. Furthermore, caution should be taken when used with patients with prior sexual offending because there is no available research examining the association between ISB and subsequent re-offending.

It is not surprising that a prior history of ISB (in this case, before admission) was a predictive factor if one follows the adage 'the best predictor of future behaviour is past behaviour'. The presence of psychotic illness was also a predictive factor; possibly due to the impulsivity and disinhibition associated with these diagnoses, (though it is acknowledged that psychotic patients are not the only patient group who can be impulsive and disinhibited). This study highlighted that SASBA might be better utilised in those individuals for whom these predictive factors are present. This finding raised further questions about the role of psychosis in ISB and prompted the follow-up study.

The increased prevalence of ISB here compared with O'Shea et al. study might be due to differences in the data source. Both of the studies presented in the current thesis, used the original SASBA frequency data (e.g. collected by frontline staff using SASBA recording sheets), whereas the research by O'Shea et al. (2016) assigned SASBA categories retrospectively using general nursing notes. Real-time recording is probably more accurate and objective than retrospectively scored indices. Their study also included females within the sample.

The follow-up study aimed to measure ISB using the original sample, but only including those who had a psychotic illness. The aims were to measure the frequencies of SASBA

recordings within a male sample of patients with psychosis, and to explore factors associated with the presence of SASBA recordings. As an extension of the primary study, general and violence risk factors were included. Violence risk factors were obtained from Historical Clinical Risk-20 assessments (HCR-20; Webster et al., 1997; Douglas et al., 2014). Group differences in terms of presence and frequency of SASBA recordings were also explored.

The most significant findings were:

1. A reduced rate of ISB recordings was found, compared with the primary study (51% versus 61%);
2. All four categories of SASBA were identified in the sample, in order of highest these were: verbal comments, touching others, non-contact behaviours and exposure. Again, these categories were all positively correlated;
3. There were several general and risk predictive factors for non-violent SASBA recordings which increased the likelihood of SASBA: these included a previous history of ISB, learning disability, past problems with substance misuse, recent negative or violent ideation, recent symptoms of major mental illness, and plans lacking feasibility or problems with professionals;
4. Conversely, there were predictive factors for violent SASBA recordings that reduced the likelihood of ISB (e.g. presence of recent symptoms of major mental illness, plans lacking feasibility or problems with professionals, and being an adult sex offender);
5. The final model for predicting non-violent SASBA recordings was significant and had an overall predictive validity of 72.9%. The predictive factors were past substance misuse, recent symptoms of mental disorder, and history of sexually inappropriate behaviour;

6. Participants with past substance misuse were 6.86 times more likely to display non-violent SASBA recordings, those with recent symptoms of mental disorder were 7.35 times more likely, and those with a history of sexually inappropriate behaviour were 7.15 times more likely;
7. When tested explicitly on patients with psychosis, there were no significant differences in frequencies of SASBA recordings between the patients with prior sexual offending, those with prior ISB and general patients. Nor was there an association between group category and presence of SASBA recordings;
8. Finally, in the current cohort, the presence of patients with prior sexual offending and psychotic illness was 25%; 44% of this group had SASBA recordings.

The rate of ISB in the psychosis sample was lower than the general mental health sample, yet there was still a 50:50 chance of patients with psychosis having one or more SASBA recordings. There were no significant differences between patients based on their risk history. The study identified several predictive factors for SASBA recordings and highlighted that it is easier to predict non-violent than violent SASBA recordings within this setting. Past substance misuse, recent symptoms of mental disorder, and a history of sexually inappropriate behaviour in the regression model were able to predict 96.4% of cases with non-violent SASBA recordings correctly. While this is a high prediction rate, the model also incorrectly identified 51.6% of cases, suggesting that the model was too sensitive. However, the presence of these factors could provide a useful indicator of who should be monitored more closely.

There was a much lower rate of patients with prior sexual offending in this follow-up study; nevertheless, the prevalence was higher when compared to other settings and previous research (e.g. the 16% suggested in Lewis & Dwyer, 2017). In total, there

were 18 patients with prior sexual offending in the psychosis sample, two had offended against children and adults, six had offended against children, and nine had offended against adults. The finding that none of the patients who offended against adults had SASBA recordings strongly indicates that SASBA should be used as a measure of sexual disinhibition as opposed to sexual risks.

The SASBA tool was critiqued in detail within the current thesis. Several strengths and limitations were identified:

Strengths

1. The SASBA tool was found to have face validity, construct validity, content validity, test-retest reliability and inter-rater reliability within neurorehabilitation settings (in relation to descriptions not frequencies);
2. There were some clear advantages over existing tools within neurorehabilitation settings (e.g. Ryden Aggression Scale; Ryden, 1988), such as the introduction of precise categorisation and discrete behaviour types by severity. It also allowed detailed chain analyses to be completed (e.g. antecedents, behaviours, and consequences).

Weaknesses

3. General: The tool was designed to be continuous, with staff recording each instance of behaviour as it occurred. This provides more rich data but has the potential to be time-consuming and costly, particularly in the case of those who were highly sexualised (e.g. the outliers in the primary study). However, the traditional methods of note writing (e.g. nursing entries) may have allowed some examples of ISB to go unnoticed or under reported;
4. Applicability to mental health samples: The tool has proved useful in general mental health settings. However, it is recommended that SASBA revised for

general mental health patients; specifically, removing antecedents related to neurorehabilitation settings (e.g. recent epileptic fit) and identifying more antecedents for mental illness (e.g. liable mood, or responding to visual or auditory stimuli etc.).

This thesis finds that the SASBA is a useful measure of overt sexual behaviours (ISB) in both neurorehabilitation and general mental health settings, but it does not appear to be a measure sensitive to coercive, predatory, or paedophilic sexual behaviours. Further research and other instruments are required to identify institutional behaviours more relevant to sexual offending. Although this task may be difficult given the probability that many of these behaviours would be highly individualised, and may be modified or hidden within restricted environments, in the interim, it would be useful to explore how the concepts of Offence Paralleling Behaviours (OPBs; Jones, 2004; Daffern, 2007) and Offence Analogue Behaviours (OABs; Gordon & Wong, 2010) are already being observed within forensic institutions and whether common behaviours are present within these formulations.

A systematic review identified and evaluated existing instruments that measure ISBs within psychiatric institutions. The following behaviour categories were included in the search terms: sexual disinhibition, hypersexuality, sexually intrusive behaviour, sexually aggressive behaviour, sexually aberrant behaviour, inappropriate sexual behaviour, sexually challenging behaviour, sexually violent behaviour, and sexually compulsive behaviour. To be included, the identified tools had to have been used with a mental health sample within inpatient settings (e.g. those with mental illness as opposed to acquired brain injury). There were many examples of tools that were

excluded because they were used exclusively with neuropsychiatric patients, or with general mental health samples in the community.

The most significant findings were:

1. There were very few published studies in this area. Only five papers met the search criteria, and only three measurement tools were identified: Hypersexuality in Psychiatric Conditions Observer-Rated Scale (HIPCORS; Davidson et al., 2017), Sexual Aggression Scale (SAS; Jones et al., 2007), and the SASBA;
2. The HIPCORS and the SAS were developed specifically for general mental health samples, whereas the SASBA had been adopted by general mental health settings;
3. The Prevalence of ISBs in general mental health patients ranged from 11% to 64% depending on the tool and psychiatric setting;
4. The quality of the research methodology was weak to moderate according to the Quality Assessment Tool for Quantitative Studies (EPHPP, 1998a). Furthermore, it may have been useful to assess psychometric properties using an alternative quality assessment tool (e.g. COSMIN Risk of Bias Checklist; Mokkink et al., 2018);
5. In terms of applicability, all of the tools appeared to be clinically useful. The SASBA and SAS were promising as continuous measures of behaviour but were potentially arduous (e.g. time-consuming or costly). It was recommended that these tools be used for individual patients (e.g. detailed functional analysis, or used alongside traditional pre- and post- measures for interventions), rather than being implemented across whole wards. The HIPCORS was a welcome addition to the assessment of hypersexuality that could be used to capture data at regular intervals.

Practical and Theoretical Implications of Present Findings

The present findings suggest that ISB is commonplace within forensic psychiatric institutions. Furthermore, SASBA can detect these behaviours in patients with mental illness, particularly those with a history of ISB, psychosis, and substance misuse problems. The discovery that just over half of those with psychosis displayed one or more ISB behaviours suggests that sexual disinhibition is common in these patients. However, this finding is not new or groundbreaking. Existing research, predominately from outside the UK, has identified sexual behaviours compatible with the definition of ISB, for example, the 'problematic sexual behaviours' identified by Fazel, Sjostedtm, Langstrom, & Grann, (2007); the 'non-physically aggressive sexual offences' of voyeurism and exhibitionism, highlighted by Alden, Brennan, Hodgins, & Mednick, (2007); and 'problematic sexual behaviours' described by Stinson & Becker, (2011). Regardless of the prevalence, the present method of defining and recording ISBs using SASBA does appear to offer a consistent way of measuring the extent of the problem, at least in terms of the consistent categorisation of ISB between observers and over time, although consistency in measurement of exact frequencies has not been tested.

As discussed in the opening chapter, the theoretical foundation of SASBA lies in behaviourism; the idea that behaviour is shaped by the immediate environment (Watson, 1920, Thorndike, 1932, & Skinner, 1938). This research does not reject the idea that sexual behaviours are influenced by these institutions and the persons within them; nevertheless, it emphasises the added importance of biological and cognitive factors. The fact that patients with psychosis displayed more ISB provides strong evidence for considering the biopsychosocial model (Engel, 1977). This is the idea that a person's medical condition is a combination of biology, psychology and social environment. Similarly, ISB should be understood by considering these three elements.

While the results of the field data are perhaps unsurprising, the combined thesis does demonstrate the scale of the problem clinicians face, at least within this forensic psychiatric institution. Examining the reasons why patients with psychosis display ISB behaviours within institutions was beyond the scope of this research, which was reliant on retrospective data. Fortunately, there is existing research examining the links between psychosis and sexual inhibition (e.g. both related to sexual offending and behaviours meeting the ISB definition). These typically fall under two categories of direct and indirect symptoms. A diagrammatical representation of some prior findings discussed in this thesis is provided in Figure. 4. for illustration purposes. This is by no means exhaustive.

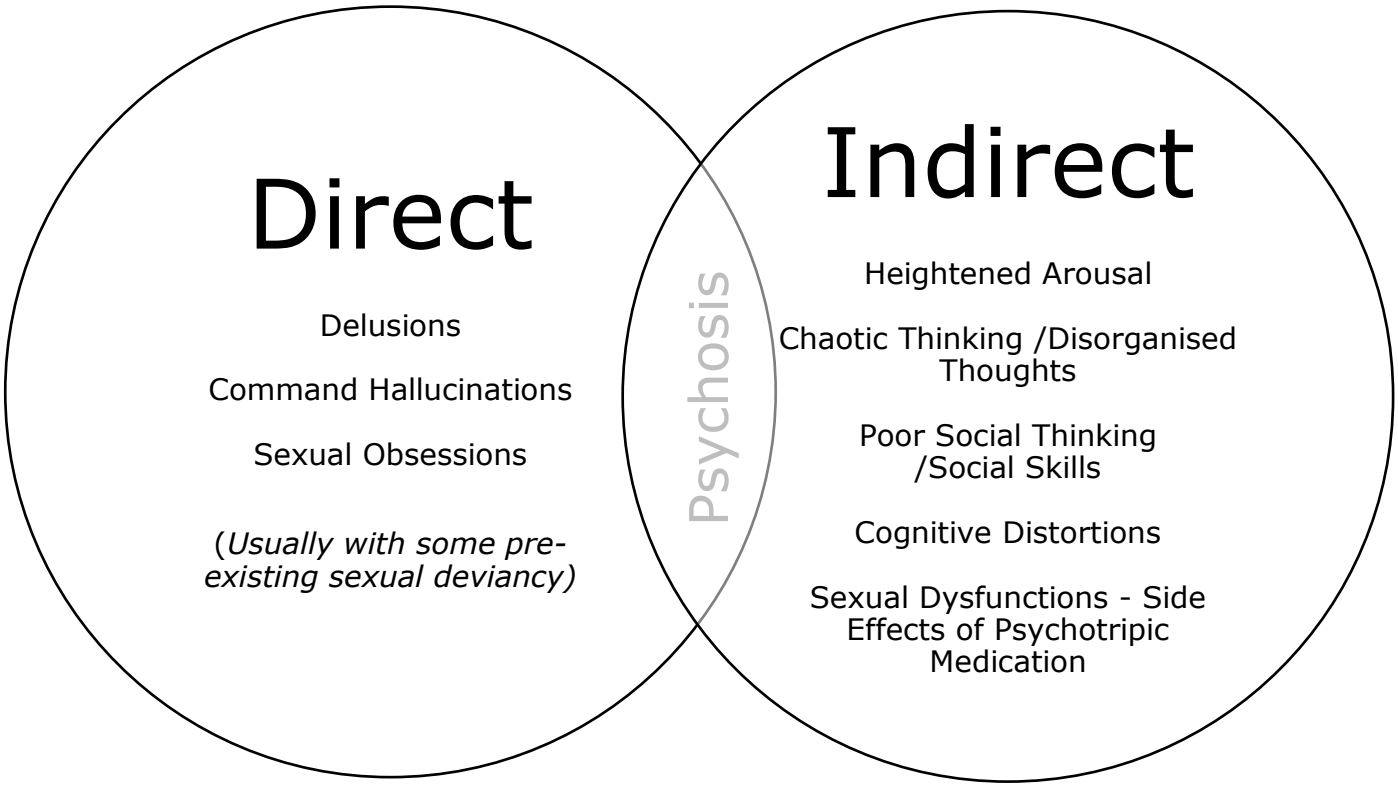


Fig 4. Sexual Disinhibition in Psychosis

(Smith & Taylor, 1999; Jones, Huckele & Tanaghow, 1992; Sahota & Chesterman, 1998; Fazel, Sjostedtm, Langstrom, & Grann, 2007; Stinson, Robbins, & Crow, 2011; de Jager & McCann, 2017; McCann, 2010)

Limitations of the study

Lack of Norms

From this sample, it is apparent that some mental health patients are sexually disinhibited within forensic psychiatric settings. Unfortunately, the data was significantly non-normal in both the primary and follow-up studies. The mode was zero, with the majority of individuals receiving no recordings or low frequencies of recordings, resulting in positively skewed data. On this basis, it was not possible to provide normative data for the general mental health sample or the psychosis only sub-sample. Additionally, because the frequencies per patient were collated across a 6-month period, it may be difficult for clinicians to relate the findings to patients in their settings. To provide some indication of what the scores looked like in practice, the scores collated over 24 weeks were transformed into weekly scores, see Figure 5.

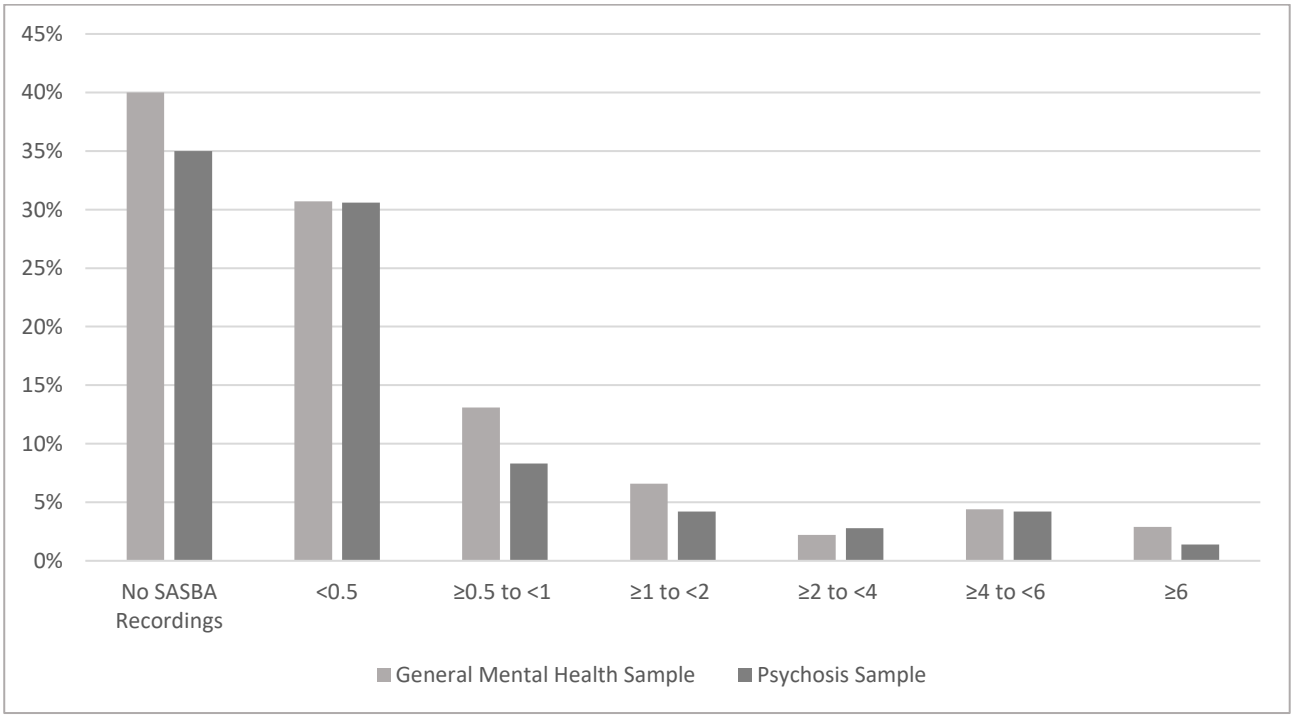


Fig 5. Average Scores (Per Week)

Sample Size

In both studies, the sample sizes were relatively small (n=137 and n= 72). Unfortunately, a power analysis was not attempted before starting the study, which if conducted, may have avoided this problem. The problem with having a smaller sample size concerns statistical power; whereby it is more difficult to detect genuine effects using statistical methods with fewer participants. Larger samples offer a much better approximation of the population and are less prone to sampling error (Field, 2018). Furthermore, the studies herein explored multiple factors relating to ISB. Statistical power, particularly within the follow-up study, may have been reduced because multiple regression requires a certain number of subjects per predictor. The follow-up study narrowly missed the rule-of-thumb suggested by Green (2010), which is $N \geq 50+8K$ (k being the number of predictors). In this case, the required sample size would have been 74 participants. There is an even higher rule-of-thumb suggested for partial correlation (e.g. $N \geq 104+8K$). Unfortunately, because the study was reliant on historical records and was limited to particular mental health wards, a greater sample size could not be achieved.

Limitations of Retrospective Studies

Finally, it is essential to acknowledge the methodological advantages and disadvantages of using retrospective cohort studies, particularly about the use of data archives. The main benefit of using data archives, applicable in this case, is how the researcher can access more data than they might otherwise have if they were to design a prospective study. It also allows the researcher to capitalise on the efforts of others and to concentrate on analysing rather than collecting the data. The main cost of using this data concerns the lack of control the researcher has over the collection and the fact that the data rarely directly addresses the research question (Robson, 2008). In this case, the sample was limited by the number of available records, yet the archival data still

provided a higher number of participants than would be achievable using current inpatients. Furthermore, it would not have been feasible due to permissions, ethical applications, implementation delays etc. to design a prospective study and to re-introduce the SASBA across current wards for this thesis. The consequences of not having stricter control over the study (e.g. missing data, biases in reporting and observing and reporting of SASBA etc.) are therefore acknowledged as limitations of the study and are discussed in the final sections below.

Missing Data

The primary study was not wittingly affected by missing data. However, it was apparent during the initial data collection that not all patients had HCR-20 documents. On this basis, HCR-20 risk factors were not included in the first study. However, the follow-up study was a more detailed exploration of patients with psychosis, and therefore, available HCR-20 risk factors were included in regression analysis. Those without HCR-20s were coded as missing data. Given the already small sample size, it is highly likely that this missing data will have further influenced the power of the statistical tests.

Medication

As discussed in Chapter *V* attempts were made to gain access to medication records. However, the data team were unable to provide this information in the projected time. Three-quarters of patients were known to be on psychotropic medication, which has been shown to influence libido and sexual activity in patients with psychosis, both negatively and positively, depending on the type used (Smith & Herlihy, 2011; Gitlin, 1994; Rosen & Hanno, 1992, Compton, Saldivia, & Berry, 2000; Kim, Pae, & Chae, 2002; & Bobes, Garc, & Portilla, 2003). It is entirely possible that the medication participants were taking had some influence on ISB. Attempts will be made to complete a further follow-up to explore the impact of medication within the sample in due course.

Biases in Observing and Reporting of SASBA

The original SASBA data was collected by frontline staff across varying periods and in different settings. Even with such a rigorous recording tool, the recording and reporting practices may have changed from person to person and from ward to ward. It is highly likely that some instances of ISB were unobserved or unreported by staff. In the original SASBA publication, the authors identified some factors that may have influenced the observation and reporting of ISB behaviours: lack of time, staff motivation staff understanding of what is acceptable or unacceptable, staff fears about the impact of labelling patients, and staff experiences of discomfort or embarrassment around ISB (Knight et al., 2008).

Data Collection

This thesis used secondary data. The frequencies of SASBA behaviours were initially recorded by frontline staff onto detailed recording sheets, which were then collated by the assistant psychologists into the individual patients' records. Conceivably this was more representative of behaviours than the retrospective methods employed by O'Shea et al. (2016), yet valuable information about the original behaviours were still not collated (e.g. the context of these behaviours). When used and recorded correctly, SASBA allows monitoring of relevant antecedents and consequences to help provide greater context to the behaviours. This is an important ethical consideration because, in addition to personal risk factors, there are likely to be cultural and environmental factors that influence sexual behaviours within institutions.

Staff Subjectivity

Forensic psychiatric settings are challenging environments where ethical dilemmas frequently arise, sometimes concerning patient risk and sexuality. Decision-making can be extremely challenging at times, particularly when working with complex and diverse

patients who may also be offenders. Moreover, these institutions are built on multi-disciplinary working, combining clinicians from very different professional and personal backgrounds. Within the UK we are known to be quite prudish and risk-averse in our treatment of mentally ill patients within forensic psychiatric settings (Tiwana et al., 2016), often imposing our own beliefs and attitudes onto our patients (McCann, 2000). Tools like SASBA are not faultless, but they offer more objective methods of observing and reporting ISB behaviours.

Conclusion and Final Recommendations

Clinicians should recognise that sexual disinhibition is not confined to neurorehabilitation settings. The SASBA tool was able to detect ISB behaviours within general mental health settings, even though this would benefit from being adapted. In this sample, many of the mentally ill patients, especially those with psychosis, displayed SASBA recordings. The majority were the less serious non-violent inappropriate behaviours; yet, there were many serious and violent inappropriate behaviours. Arguably, all of these would be challenging and problematic for clinicians to manage. However, some SASBA behaviours (e.g. sexual touching, exposing genitals, or masturbating in public) could result in sexual convictions and therefore warrant ongoing observation and intervention.

Some patients with prior sexual offending did display SASBA behaviours; nonetheless, the presence of sexual conviction was not a predictive factor. The SASBA tool appears only to measure overt sexual disinhibition, but many sexual offenders are not considered to be disinhibited, for example, the approach-explicit sexual offender, who is both motivated to offend and has good-self regulation (Ward & Hudson, 1998, 2000). Further research is required to identify if there are detectable risk behaviours that

'predatory' and 'controlled' sexual offenders commonly display within restricted environments. Caution must also be taken when considering ISB behaviours of sexual offenders within risk assessments because there is currently no evidence of an association between institutional ISB behaviours and sexual recidivism.

In closing, given the heterogeneity of mental health patients and sexual offenders, individual risk formulation is essential when assessing sexual risks within psychiatric settings. Furthermore, clinicians should address their own biases in relation to the sexual needs of detained patients and should consider environmental factors when conducting risk assessments, as well as the benefits of encouraging appropriate sexual relationships on both offender rehabilitation and mental health recovery. A national policy on supporting sexuality in forensic mental health settings would be welcomed.

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Appendices

Appendix A: Search Syntax

ASSIA 6.1.19

("mental illness*" or "mental disorder*" or schizophren* or psychosis or "psychotic symptoms*" or "psychiatric") AND ("assessment" or "scale*" or "observation" or "measure" or "behaviour* checklist" or "behaviour* recording") AND ("sex* disinhibit*" or "hypersexuality" or "sex* intrusive behaviour*" or "sex* aggressive behaviour*" or "sex* aberrant behaviour*" or "inappropriate sexual behaviour*" or "sex* challenging behaviour*" or "sex* violent behaviour*" or "sex* compulsive behaviour*")

EMBASE 6.1.19

"mental illness*" or "mental disorder*" or schizophren* or psychosis or "psychotic symptoms*" or "psychiatric" AND "assessment" or "scale*" or "observation" or "measure" or "behaviour* checklist" or "behaviour* recording" AND "sex* disinhibit*" or "hypersexuality" or "sex* intrusive behaviour*" or "sex* aggressive behaviour*" or "sex* aberrant behaviour*" or "inappropriate sexual behaviour*" or "sex* challenging behaviour*" or "sex* violent behaviour*" or "sex* compulsive behaviour*"

Medline 6.1.19

"mental illness*" or "mental disorder*" or schizophren* or psychosis or "psychotic symptoms*" or "psychiatric" AND "assessment" or "scale*" or "observation" or "measure" or "behaviour* checklist" or "behavior checklist" or "behaviour* recording" or "behavior* recording" AND "sex* disinhibit*" or "hypersexuality" or "sex* intrusive behaviour*" or "sex* intrusive behavior" or "sex* aggressive behaviour*" or "sex* aggressive behavior*" or "sex* aberrant behaviour*" or "sex* aberrant behavior*" or "inappropriate sexual behaviour*" or "inappropriate sexual behavior*" or "sex* challenging behaviour*" or "ISB behavior" or "sex* violent behaviour*" or "sex* violent behavior" or "sex* compulsive behaviour*" or "sex* compulsive behavior*"

PsychINFO 6.1.19

"mental illness*" or "mental disorder*" or schizophren* or psychosis or "psychotic symptoms*" or "psychiatric" AND "assessment" or "scale*" or "observation" or "measure" or "behaviour* checklist" or "behavior checklist" or "behaviour* recording" or "behavior* recording" AND "sex* disinhibit*" or "hypersexuality" or "sex* intrusive behaviour*" or "sex* intrusive behavior" or "sex* aggressive behaviour*" or "sex* aggressive behavior*" or "sex* aberrant behaviour*" or "sex* aberrant behavior*" or "inappropriate sexual behaviour*" or "inappropriate sexual behavior*" or "sex* challenging behaviour*" or "ISB behavior" or "sex* violent behaviour*" or "sex* violent behavior" or "sex* compulsive behaviour*" or "sex* compulsive behavior*"

Psycharticles 6.1.19

"mental illness*" or "mental disorder*" or schizophren* or psychosis or "psychotic symptoms*" or "psychiatric" AND "assessment" or "scale*" or "observation" or "measure" or "behaviour* checklist" or "behavior checklist" or "behaviour* recording" or "behavior* recording" AND "sex* disinhibit*" or "hypersexuality" or "sex* intrusive behaviour*" or "sex* intrusive behavior" or "sex* aggressive behaviour*" or "sex* aggressive behavior*" or "sex* aberrant behaviour*" or "sex* aberrant behavior*" or "inappropriate sexual behaviour*" or "inappropriate sexual behavior*" or "sex* challenging behaviour*" or "ISB behavior" or "sex* violent behaviour*" or "sex* violent behavior" or "sex* compulsive behaviour*" or "sex* compulsive

behavior*"

SCOPUS 6.1.19

(TITLE-ABS-KEY ("mental illness*" OR "mental disorder*" OR schizophren* OR psychosis OR "psychotic symptoms*" OR "psychiatric") AND TITLE-ABS-KEY ("assessment" OR "scale*" OR "observation" OR "measure" OR "behaviour* checklist" OR "behaviour* recording") AND TITLE-ABS-KEY ("sex* disinhibit*" OR "hypersexuality" OR "sex* intrusive behaviour*" OR "sex* aggressive behaviour*" OR "sex* aberrant behaviour*" OR "inappropriate sexual behaviour*" OR "sex* challenging behaviour*" OR "sex* violent behaviour*" OR "sex* compulsive*"))

Appendix B: Ratings Quality Assessment Tool for Quantitative Studies (EPHPP)

GLOBAL RATING

COMPONENT RATINGS
Please transcribe the information from the gray boxes on pages 1-4 onto this page. See dictionary on how to rate this section.

A	**SELECTION BIAS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
B	**STUDY DESIGN**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
C	**CONFOUNDERS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
D	**BLINDING**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
E	**DATA COLLECTION METHOD**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
F	**WITHDRAWALS AND DROPOUTS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	Not Applicable

GLOBAL RATING FOR THIS PAPER (circle one):

1	STRONG	(no WEAK ratings)
2	MODERATE	(one WEAK rating)
3	WEAK	(two or more WEAK ratings)

With both reviewers discussing the ratings:

Is there a discrepancy between the two reviewers with respect to the component (A-F) ratings?

No Yes

If yes, indicate the reason for the discrepancy

1 Oversight
2 Differences in interpretation of criteria
3 Differences in interpretation of study

Final decision of both reviewers (circle one):

1 STRONG
2 MODERATE
3 WEAK

Appendix C: Example of OAS-MNR Behaviours (Alderman et al, 1997).

Severity Level	Categories of Behaviour			
	Verbal Aggression (VA)	Physical Aggression to Objects (PO)	Physical Aggression to Self (PS)	Physical Aggression to Other People (PP)
1	VA1	PO1	PS1	PP1
	Shouts angrily e.g. "Bloody Hell"	Slams doors Scatters objects	No or minor injury e.g. Hits self	Gestures/Swings at people
2	VA2	PO2	PS2	PP2
	Mild insults e.g. "You are stupid"	Throws objects down Kicks objects	Hurts self without serious injury e.g. Bangs head	Strikes/kicks/pulls hair (without significant injury)
3	VA3	PO3	PS3	PP3
	Swearing - directed e.g. "Fuck off you bastard"	Breaks objects Smashes objects	Inflicts small cuts/bruises/ minor burns.	Attacks others causing mild-injury e.g. bruises
4	VA4	PO4	PS4	PP4
	Clear threats e.g. "I am going to kill you"	Sets fires Throws objects (dangerously)	Deep cuts/ mutilates self/fracture/loss of consciousness	Attacks others causing severe physical injury e.g. broken bones

Appendix D: St Andrew's Sexual Behaviour Assessment (SASBA)

ST ANDREW'S SEXUAL BEHAVIOUR ASSESSMENT (SASBA)

1.BEHAVIOURS

	Verbal Comments VC	Non Contact NC	Exposure E	Touching Others TO	
1	Intimate personal comments of mild severity, e.g. "Have you got a girlfriend?", "I love you", "You're gorgeous"	Blowing kisses, kissing self or staring at another persons groin, female breasts or buttocks, or makes obscene gesture	Appears unaware that is exposing genitals, female breasts or buttocks in a public setting	Touches for a prolonged period (excess of 2 seconds) or strokes another person – does not include groin, female breasts or buttocks	1
2	Comments of a sexual nature, clearly not person directed, e.g. "I've got a big dick"	Touches own groin, female breasts or buttocks over or under clothes (no exposure)	Wearing no clothes in a public setting, clearly not person directed	Kissing another person	2
3	Descriptions of another persons groin, female breasts or buttocks clearly directed to another person e.g. "You have a nice bottom", "She's got lovely breasts"	Masturbates in a non shared setting where staff are present (e.g. begins when staff enter bedroom or in bath)	Intentionally exposes genitals, female breasts or buttocks to another person (appears to be a deliberate premeditated behaviour)	Lifting skirts, pinching or touching buttocks, sitting on other's knee	3
4	Explicit accounts of sexual intent, requests or activity e.g. "Show me your knickers", "I want to shag you"	Masturbates without genitals being exposed in a public setting, including ward shared areas (e.g. dining room)	Masturbates with genitals being clearly exposed in a public setting, including ward shared areas (e.g. patient's lounge)	Touching others groin, female breasts, or rubbing own genitals or female's breast against another person	4

a) Masturbation = rubbing own genitals b) Bedrooms and bathrooms are non public/ non-shared environments c) Attempts to touch which are only prevented by st aff intervention, should be rated as if contact occurred.

2.ANTECEDENTS

Set One Contributing Factors (coded 1-3)	Set Two Observed directly before aggression Coded 11-25)
1 Structured activity	11 Given direct verbal prompt to comply with instruction
2 Noisy environment	12 Given verbal guidance/advice to assist completion of task/activity.
3 Had epileptic fit in last 24 hrs	13 Given verbal/visual feedback about performance e.g. token feedback.
	14 Direct response to other clients verbal behaviour.
	15 Request specifically denied by other person.
	16 Any other verbal interaction.
	17 Physical guidance/facilitation including TA.
	18 Direct response to other clients physically aggressive behaviour when directed at them.
	19 Direct response to other clients physically aggressive behaviour when not directed at them
	20 During restraint/whilst being assisted to seclusion.
	21 Given item e.g.food.
	22 Purposeful behaviour is TOOTS by person to whom it is directed at.
	23 Obviously agitated or distressed
	24 No obvious antecedent
	25 Other (please specify below)

3. INTERVENTIONS

A	B	C	D	E	F	G
Behaviour ignored. TOOTS	Talking to patient including prompts.	Closer observation	Holding Patient (physical restraint)	Immediate medication given by mouth.	Immediate medication given by injection.	Isolation without seclusion.
H	I	J	K	L	M	N
Seclusion	Use of other restraints	Injury requires immediate medical treatment for patient.	Injury requires immediate medical treatment for other.	Special programme	Physical distraction (leading the patient away)	Other

Appendix E: Diagnostic Information (Primary Study).

Diagnostic Information

Diagnoses	Sample		Sex Offenders		ISB Group		General Patients	
	n	(%)	n	(%)	n	(%)	n	(%)
F00-F09	17	(12)	6	(12)	4	(11)	7	(14)
F10-F19	22	(16)	6	(12)	5	(14)	11	(22)
F20-F29	72	(53)	18	(36)	21	(58)	33	(65)
F30-F39	0	(0)	0	(0)	0	(0)	0	(0)
F40-F48	3	(2)	2	(4)	1	(3)	0	(0)
F60-F69	57	(42)	29	(58)	11	(31)	17	(33)
F70-F79	29	(21)	10	(20)	10	(28)	9	(18)
F80-F89	15	(11)	5	(10)	4	(11)	6	(12)
F90-F98	11	(8)	6	(12)	2	(6)	3	(6)

F00-F09: Organic, including symptomatic, mental disorders. F10-F19: Mental and behavioural disorders due to psychoactive substance use. F20-F29:Schizophrenia, schizotypal and delusional disorders. F30-F39:Mood [affective] disorders. F40-F48: Neurotic, stress-related and somatoform disorders. F60-F69: Disorders of adult personality and behaviour. F70-F79: Mental retardation. F80-F89: Disorders of psychological development. F90-F98 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence.

Appendix F: Ethical Approval

The University of Nottingham
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Investigators: Robyn Price and Vince Egan

Title of study: Measuring sexualised behaviour within secure psychiatric services: A comparison of sex offenders by victim type using archival data.

Duration of study: Until September 2018

Ethics reference number: 232

Tuesday 30th May 2017

A favourable opinion is given to the above named study on the understanding that the applicants conduct their research as described in the above numbered application, and adhere to all conditions under which the ethical approval has been granted and use only materials and documentation that have been approved. If any amendments to the study are required, an amendment should be submitted to the committee for approval.

David Daley (Professor)

Co-Chair of DPAP Ethics Subcommittee

Amanda Griffiths (Professor)

Co-Chair of DPAP Ethics Subcommittee