An Exploration into the Impact of Patient Aggression towards Staff in Secure Forensic Hospitals – From Risk Factors to Coping

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Abstract

The aim of this thesis was to develop better understanding of the role of inpatient aggression in forensic healthcare settings. This was achieved through a variety of methods including two research studies, a systematic review and a critique of a frequently used psychometric measure.

Following an introduction in Chapter one, Chapter two explored the risk factors to inpatient aggression using a qualitative approach. Four themes emerged from the six participants which focussed around staff communication, routine and rules on the wards, staff knowledge and staff attitudes. These were discussed in relation to the job resources and demands outlined in the Job Demand-Resources (JD-R) Model.

Chapter three provided a critique of the Maslach Burnout Scale (MBI). This confirmed the use of the MBI in the following two chapters of this thesis.

Chapter four used quantitative measures to explore the non-somatic impact inpatient aggression has on staff members within two private secure forensic hospitals in the United Kingdom. Results indicated that experience of

physical aggression is prevalent and staff victims showed a decrease in job satisfaction and increase in the depersonalisation subscale of burnout. No differences were found regarding the other two subscales of burnout or anxiety. No effect was found for the number of incidents staff members' experience.

Chapter five moves onto presenting a systematic review of seven studies reporting on the coping strategies staff members use after experiencing inpatient aggression. Results found that organisational support can be effective in reducing non-somatic symptoms but staff members do not perceive this support as helpful and therefore, they rely on personal coping strategies. This chapter highlighted the use of organisation resources in supporting staff members.

Finally, chapter six draws the thesis together through discussing the JD-R Model, implications, limitations and provides recommendations for future research.

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1. CHAPTER ONE: GENERAL INTRODUCTION

1.1. Background

1.1.1. Healthcare.

Healthcare is defined as "services provided to individuals or communities by health service providers for the purpose of promoting, maintaining, monitoring or restoring health" ("Ageing and Health Technical Report", 2004). These providers can involve general hospitals, specific wards, Accident and Emergency, care homes, psychiatric units and specialised units for people with intellectual disabilities.

Within the United Kingdom, a large proportion of the providers of healthcare operate under the auspices of the National Health Service (NHS). However, the past two decades have witnessed a significant expansion in the provision healthcare in private or independent healthcare settings. This is especially observed in mental health where more patients are transferred to private or independent hospitals due to the strain on the NHS and lack of bed space. There is also limited provision of specialised services for certain groups of patients such as adolescents, individuals with intellectual disabilities or those with acquired brain injury. Keown, Mercer and Scott (2008)

found three times more admissions to psychiatric private hospitals in 2006 compared to 1996. Pollock (2010) discussed privatisation after it was reported that NHS mental health services were closed or transferred to for profit private companies whilst newspaper articles have discussed the issue of having to seek treatment on a private basis due to the unfortunate long waiting times in the NHS for specialist care (Orr, 2017).

Forensic healthcare is provided in both NHS and independent settings. It relates to the care and treatment of patients who experience a mental disorder and pose significant risks to others due to their mental disorder. Within inpatient settings, the vast majority of these patients are detained under the Mental Health Act (MHA; 1983, as amended 2007). Furthermore, the patients within forensic mental healthcare settings have a forensic history of offending behaviours, or the patients' behaviour is to a certain level which means they cannot be managed safely in general psychiatric hospitals (Lauvrud, Nonstad, & Palmstierna, 2009). Due to their offending history or behaviour characterised by aggression, there are additional risks posed to staff members which might be less prominent in different healthcare settings.

1.1.2. Aggression.

One issue in mental healthcare settings is patient aggression. Buss (1961) defined aggression as "a response that delivers noxious stimuli to another organism" (p. 1). This was generally well accepted by researchers; however, the definition has several limitations. Firstly, aggression from people who did not intend to be aggressive are incorporated into this definition. Secondly, it includes individuals who welcome harm such as sadomasochism. Additionally, individuals who have pro-social intentions but still cause harm such as a dentist causing an injury to a client having a tooth removed are included in this definition of aggression, hence it is important to factor in consent of the recipient before such a procedure occurs.

Researchers have responded to these limitations to improve the definition of aggression. In their definition, Baron and Richardson (1994) included the intentions of the perpetrator and victim with the definition as follows: "any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment" (Baron & Richardson, 1994, p. 7). This

definition helps overcome the three limitations previously discussed with the definition by Buss (1961).

Furthermore, Parrott and Giancola (2007) supported the definition provided by Baron and Richardson (1994) as it recognised that aggression is a behavioural process. Parrott and Giancola (2007) stated that this is important because aggression, anger and hostility are used interchangeably. Aggression is not necessary to occur for an individual to be angry. Anger is an emotional state which can range from mild annoyance to rage (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). In contrast, hostility is a "cognitive construct comprised of enduring cognitions that involve negative interpretations of the environment" (Parrott & Giancola, 2007, p. 283). Therefore, as the three terms differ greatly, definitions of aggression must include what makes it unique from anger and hostility, namely, it being a behavioural process which Baron and Richardson (1994) recognise.

In general, aggression can be physical, verbal or expressed as hostility (Yamasaki & Nishida, 2009). Physical or verbal aggression is called 'reactive-expressive aggression' whilst hostility is named 'reactive-inexpressive aggression' (Sakai

& Yamasaki, 2004). Verbal aggression is captured by 'psychological aggression' which relates to any incident where there was an intention to harm (i.e. threatening behaviour), signs of overt behaviour where the client has been physical to an object (e.g., kicking the wall) or personal insults (e.g., swearing or name calling). This type of aggression leads to an emotional and psychological impact onto the victim which may be less obvious to the victim and those around that person. Physical aggression, on the other hand, relates to any incident where there was physical contact. This may or may not have led to an injury (e.g., hitting, kicking, biting, spitting or sexual contact). Physical aggression can, at times, lead to clear signs of harm due to injuries and marks on the victim. It is important to note that violence is a form of physical aggression which can vary in severity. The Oxford dictionary defines violence as "behaviour involving physical force intended to hurt, damage, or kill someone or something". Therefore, the severity of violence can vary from inappropriate touching to homicide.

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1.1.3. Aggression in Healthcare.

The prevalence of inpatient aggression has been discussed in previous literature. From 215 mental health wards across England and Wales, 41% of nurses reported upsetting incidents with 50% feeling threatened and unsafe, and 22% had been physically assaulted in the year prior to the survey ("Healthcare Commission National Audit of Violence 2006-7", 2007). Broderick, Azizian, Kornbluh and Warburton (2015) explored the prevalence of violence in a psychiatric system in the USA between 2011 and 2013 and found 31.4% of patients had instigated at least one act of physical violence towards staff members or fellow patients. Also in the USA, Bader and Evans (2015) stated that five psychiatric hospitals across California housed an average of 5600 patients and there were 2596 assaults towards staff in 2013. Looking at the broader international picture, Iozzino, Ferrari, Large, Nielssen, and De Girolamo (2015) conducted a systematic review to highlight the prevalence of inpatient aggression in acute psychiatric wards. Thirty five studies from 1995 to 2014 from various countries such as the United Kingdom, Norway, and Australia showed that 17% of the combined 23,972 inpatients had instigated at least one incident of physical violence. Nijman, Bowers, Oud, and Jansen (2005) assessed the prevalence across a variety of healthcare

settings and included forensic units. The researchers found 16% of staff experienced severe physical aggression with 76% experiencing mild physical aggression. However, it is not clear of the prevalence in forensic only units as the data was combined with other psychiatric centres. Within a forensic psychiatric hospital in the Netherlands, 27.2% of 506 patients were found to have an incident of physical aggression between 2008 and 2014 (Verstegen, de Vogel, de Vries Robbé, & Helmerhorst, 2016).

1.1.4. Effect of Aggression.

In general, patient aggression has a negative impact on staff. In a systematic review of forensic and Psychiatric Intensive Care Units (PICUs), Bowers et al. (2011) highlighted the consequences staff members experience after inpatient aggression. 12 studies reported 16 types of psychological outcomes which included irritability, fear, job dissatisfaction, anxiety, and resentment.

A further psychological stress which has been related to the workplace and aggression is burnout (Freudenberger, 1974). Burnout is physical and emotional exhaustion caused by prolonged exposure to stress and being too committed to one's work impacting cognitions, judgements,

and emotions. Maslach, Jackson, and Leiter (1986) put forward a three-dimensional construct for burnout: emotional exhaustion (EE), depersonalisation (DP) and reduced personal accomplishments (PA). According to this model, EE relates to the feelings of physical and emotional fatigue; DP relates to insensitive behaviours a worker may show to a client; and reduced PA entails having negative thoughts and feelings about self. Burnout has been found to be a prevalent issue across nursing practice. Cañadas-De la Fuente et al. (2015) found 25% of nurses had high levels of EE, 30% had high levels of DP, and 30% had low levels of PA. In a systematic review of emergency service nurses, Adriaenssens, De Gucht, and Maes (2015) found high levels of EE and DP, and low levels of PA were 26%, 35% and 27% respectively.

1.1.5. The Jobs Demands-Resources Model.

The Jobs Demands-Resources Model (JD-R Model) was proposed to explain the origins of burnout. The model described job demands and resources an individual has in the workplace as potential risk factors to occupational stress (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

It defined job demands as "physical, social, or organizational aspects of the job that require sustained physical or mental effort" (p. 501; Demerouti et al., 2001). Examples included workplace environment, job duties, emotional demands, and work hours. When job demands are high, the person has to exert more effort to achieve work goals which can lead to strain and consequences to the individual's health.

Job resources referred to any of those aspects of the job which aid the employer in achieving work goals, reduce the strain to the job, or physiological costs of the job demands, and support personal growth and development. Examples include supervision, training, and potential for professional development.

The initial study (Demetri et al., 2001) explored the burnout and working conditions of 374 employees in northern Germany. In terms of the three-factor concept of burnout (Maslach, Jackson, & Leiter 1986), the results found that when job demands were high, employees experienced increased exhaustion whilst job resources were negatively correlated to DP as this increased when resources were low. Furthermore, when job demands were

high and job resources were low the participants scored high for both EE and DP. Therefore, the researchers concluded that burnout is determined by working conditions. This has been supported in further research which have shown a resourceful environment allows the employee to feel able to work without excessive effort (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007), whilst workload and conflict between different roles (job demands) predicted exhaustion whilst low goal clarity and job learning (job resources) predicted DP (Hansen, Sverke, & Näswall, 2009).

Schaufeli and Bakker (2004) proposed a revised version of the JD-R model which included work engagement alongside burnout. It stated that burnout mediates job demands and an employee's health and well-being, and was coined the health-impairment process of the JD-R. Furthermore, work engagement mediates job resources and a positive work state of mind, hence, the motivational process of the model. Evidence has been found for the two different processes of job demands and resources. High job demands have predicted negative health consequences such as absenteeism due to ill health (Bakker, Demerout, De Boer, & Schaufeli, 2003), burnout (Bakker, Demerouti,

& Verbeke, 2004), and future depression (Hakanen, Schaufeli, & Ahola, 2008). High job resources have been found to aid future work engagement (Hakanen et al., 2008), and reduced absences due to commitment to the organisation (Bakker et al., 2004). Therefore, both versions of the JD-R Model state that burnout can be reduced in the work place if the employee has sufficient resources to manage job demands. Anomalies in these two processes can lead to burnout. The model stated that EE is developed when an individual cannot recover from high job demands in appropriate time. Secondly, when the resources are not adequate to manage the demands, the employee can lose motivation in their job through disengagement and DP.

The JD-R Model will inform this thesis. It will be used to identify job demands and resources within forensic healthcare settings. Job demands in this thesis are conceptualised through any physical or psychological strains as defined by the JD-R Model. Previous research has outlined the physical and psychological consequence to patient aggression in forensic services, therefore, patient aggression was seen as a job demand. This thesis highlighted further demands related to patient aggression

and these were conceptualised through the participants' discussions around what they found difficult at work. For example in the qualitative work demands were seen as aspects of daily working which the participants said they found stressful or they felt made their work duties hard to complete.

Forensic healthcare could be seen as a more stressful environment than other workplaces; however, this work setting should have the same resources in place to support employees. The resources through this thesis were understood by using the definition from the JD-R Model as aspects of the job which support employees, overcome demands, and allow for professional development. As the main job demand in this thesis was patient aggression the resources were understood in terms of aspects the employers could utilise to prevent the incidents of aggression and to support their staff members. The resources were further conceptualised in this thesis through discussions on what participants thought would be helpful.

1.2. Study Aims

1.2.1. Thesis rationale.

In terms of aggression, there are various stages to an incident. Aggression is likely to have an antecedent to it followed by a psychological impact to the victim and, finally, a need to support the person. Therefore, the aim of this thesis is to explore the various aspects of inpatient aggression from risk factors to consequences and the support victims receive. Whilst this is a large area to cover, it is important to be aware that inpatient aggression has various aspects to it and these steps can occur over a period of time or in a short timeframe. As aggression has numerous components to it, it is important to have a good understanding of each of them in order to better support staff members and, in turn, support the patients they care for. Furthermore, as there is an increase in private healthcare especially in psychiatric and forensic hospitals, more exploration is needed on these settings.

1.2.2. Thesis aims.

This thesis aims to build on support previous research which has explored inpatient aggression within mental health and forensic units whilst adding to the literature within a private forensic hospital. The thesis overlaps with occupational psychology due to its focus on staff members within the workplace and one key theory within this field is

the JD-R Model. The thesis will contextualise the findings using this model. Each chapter will give a view of each stage of inpatient aggression whilst using the JD-R Model to inform the role high demands and low resources have within acts of aggression in the workplace.

The overall aim of this thesis was to develop better understanding of the role of inpatient aggression in forensic healthcare settings. The specific aims to achieve this were:

- To explore the affect patient aggression has on staff who work within forensic secure hospitals in terms of burnout, anxiety and job satisfaction.
- To critique the use of MBI in assessing burnout. This will allow the tool to be used with confidence in the quantitative strand and systematic review in the subsequent chapters.
- To better understand the coping strategies adopted by victims of patient aggression, and the role organisational support has in terms of alleviating negative effect of aggression.
- To explore factors that lead to high-risk situations in forensic units and are perceived to influence patient aggression.

1.3. Structure of Thesis

1.3.1. Overall structure of thesis.

The thesis was structured in the following way to address these aims. The thesis comprises of this introduction chapter (chapter one), a qualitative research study on staff perception of risk factors to patient aggression (chapter two), a critical appraisal of the Maslach Burnout Inventory (chapter three), a quantitative research study on the impact of patient aggression (chapter four), a systematic review of the role of coping used by staff victims and the effect coping has on reducing negative consequences (chapter five), and a final overall discussion on the research presented throughout this thesis (chapter six).

The work presented in this thesis examines topics related to forensic patient aggression and can be taken together to give a holistic understanding to this prominent issue in forensic healthcare. Inpatient aggression follows a chronology from the antecedents of aggression, the immediate result of the incident, and the long term outcomes from it. Therefore, the work in this thesis is presented to give the same chronological story of how aggression can occur, the affect it has, and how to support staff. Additionally, the thesis will discuss how the different

stages of aggression can interact with each other. A critique of the MBI is placed in the middle of this story arc of inpatient aggression. This was done because the tool was used in the subsequent quantitative work and systematic review whilst it was not discussed in the qualitative strand. Therefore it is placed immediately prior to its use in the thesis to confirm that it can be used with confidence.

1.3.2. Chapter two.

This chapter adopted an exploratory thematic analysis to meet the overall aim of gaining knowledge on the views from forensic staff on risk factors that lead to inpatient aggression. Previous research has explored the causation through quantitative measures in forensic settings and qualitative research has been utilised in prison, youth offending, and psychiatric and forensic hospitals. This study adds to this research by exploring private forensic healthcare and places risk factors in the context of the JD-R Model. Several themes were highlighted allowing for recommendations to be adopted within forensic hospitals which could lower the risk of inpatient aggression. The findings from this chapter alongside the systematic review

highlighted how resources were low throughout inpatient aggression from the antecedents to the ways of coping.

1.3.3. Chapter three.

This chapter is a critique of the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981b). The concept of burnout has been used within the JD-R Model to understand occupational stress and the model has explained how the subscales within burnout occur. Furthermore, the MBI was used in Chapter Four and mentioned in the systematic review, hence, it is placed prior to these pieces of work. Therefore, as burnout is a prominent aspect of occupational stress and the MBI is a regularly used tool in previous research and this thesis, it is vital to understand whether the tool is a good way to measure burnout in order for it to be used with confidence in the subsequent chapters.

1.3.4. Chapter four.

This quantitative study explores the impact of patient aggression in a sample of 99 ward staff working within private forensic secure hospitals. In this study, Healthcare Workers (HCWs), Registered Mental Health Nurses (RMNs) and clinical staff were assessed on their experience of physical aggression and the relationship of this to burnout,

anxiety and job satisfaction. The findings are discussed in terms of their implications for raising organisational awareness of non-somatic symptoms from inpatient aggression and better understanding aspects of staff members who work within forensic services. This work supported the qualitative strand in terms of explaining how DP could influence the perception of risks in staff member's job roles.

1.3.5. Chapter five.

This systematic review explored the coping strategies staff victims of inpatient aggression typically adopt or are available to them. The benefit of this work is that the support for victims can be better understood. It is important to understand what coping skills reduced the affect in order for guidelines and policies to be adopted by employers and organisations. Therefore, the first systematic review exploring coping strategies used by victims of inpatient aggression within psychiatric units was completed. The range of findings highlighted in this review gives insight into the range of coping strategies adopted and highlights the use of JD-R Model in understanding how resources are necessary in coping whilst supporting the qualitative findings in terms of highlighting the impact of

low resources and the perception staff members have within organisations in terms of accessing support following inpatient aggression.

1.3.6. Chapter six.

Finally, this discussion brings together the findings of the main work, and outlined how the findings fit in with the wider literature and the JD-R Model. Implications for future research and practice are discussed, with a focus on factors that can reduce inpatient aggression within the forensic healthcare setting and policies and guidelines on how organisations can best support victims of aggression in the event that they experience inpatient aggression.

2. CHAPTER TWO: QUALITATIVE RESEARCH

An Exploratory Thematic Analysis into the Perceptions of Ward Staff to Risk Factors in Inpatient Aggression within a Forensic Secure Hospital

Abstract:

Introduction: Inpatient aggression has many negative consequences to staff. Previous research has identified individual risk factors for aggression and has led to the development and implementation of risk assessment tools. Further research has assessed situational factors for aggression, however, this has been limited in secure forensic hospitals. This study aimed to explore ward staff views of risk factors for inpatient aggression.

Method: A qualitative approach using thematic analysis was used to explore and describe ward staff views on the putative risk factors for inpatient aggression within forensic secure services. Data was collected through semi-structured interviews and coded through the guide by Braun and Clarke (2006).

Results: Results indicated that inpatient aggression is considered to be predominantly influenced by situational factors and low resources with high demands of the job.

The main themes explored staff communication, ward routine, staff knowledge, and the attitude of management and ward staff.

Conclusion: The study concluded that organisations need to implement comprehensive training, managerial support and active recruitment drives in order to support in the reduction of patient aggression.

Keywords: Thematic Analysis, Risk Factors, Inpatient Aggression, Forensic Healthcare

2.1. Introduction

Aggression directed toward staff in healthcare settings is prevalent and leaves a lasting effect on the victim (Rippon, 2000). Victims have been shown to exhibit burnout, anxiety, job dissatisfaction, and physical health symptoms (Dean, Gibbon, McDermott, Davidson, & Scott, 2010; Gascon et al., 2013; Needham, Abderhalden, Halfens, Fischer, & Dassen, 2005). It is important to explore the risk factors for inpatient aggression to help develop and implement approaches to reduce inpatient aggression.

2.1.1. Individual risk factors.

In terms of understanding and managing inpatient aggression, research has focussed on individual risk factors for violence. By understanding these factors, assessments can be undertaken to support the prediction and management of violence. Barlow, Grenyer, and Ilkiw-Lavalle (2000) found that key risk factors in aggression include age (under 32 years), mental state, past history of violence and substance use. These individual factors have been further supported by Bo, Abu-Akel, Kongerslev, Haahr, and Simonsen (2011), Pulsford et al. (2013), and Renwick et al. (2016), whilst a meta-analysis further highlighted gender, number of previous admissions and

self-destructive behaviours as other contributory factors (Dack, Ross, Papadopoulos, Stewart, & Bowers, 2013). Bousardt, Hoogendoorn, Noorthoorn, Hummelen, and Nijman (2016) found the impulsivity domain labelled 'negative urgency' (individual trait where someone rushes into decisions due to a negative affect) significantly predicted the physical aggression in a low secure forensic hospital. Further interpersonal styles have been found where dominant and coercive styles were significant predictors of inpatient aggression within males in a high-secure forensic hospital (Vernham, Tapp & Moore, 2016). Van der Helm, van Genabeek, and van der Laan (2012) compared positive living environment, personality traits and aggression in juvenile offenders in the Netherlands. The results found that this positive environment buffered against aggression as it reduced traits of narcissism in the participants. Therefore the study supported evidence that inpatient aggression occurs due to individual factors such as personality traits.

Individual factors have helped develop risk assessment tools, meaning professionals are able to assess the different risk areas such as general violence (Historical Clinical Risk Management-20, Version 3, HCR-20; Douglas

et al., 2014, and Short-Term Assessment of Risk and Treatability (START; Webster, Martin, Brink, Nicholls, & Desmarais 2009); sexual violence (Risk of Sexual Violence Protocol, RSVP; Hart et al., 2003); and violence in youths (Structured Assessment of Violence Risk in Youth, SAVRY; Borum, Bartel, & Forth, 2005). Maguire, Daffern, Bowe, and McKenna (2018) found that structured risk assessments prompted nurses to implement interventions to manage aggression and higher ratings led to more interventions. This highlighted the importance of structured risk assessments and how nursing staff do follow them. These risk assessment tools have been shown to predict violence leading to the management of violence for identified high risk individuals (Belfrage, Fransson, & Strand, 2000; Chu, Goh, & Chong, 2016; Strub, Douglas, & Nicholls, 2014). Within forensic units, the HCR-20 has been shown to have good predictive validity with male and female inpatients (de Vries Robbé, de Vogel, Wever, Douglas, & Nijman, 2016), with similar validity found by Hogan and Olver (2016) who also showed good predictive validity with the START. These individual treatment approaches include heightened supervision, improved knowledge for those around the individual and other therapeutic approaches.

However, the individual treatment these factors lead to are not cost effective as it can be difficult for organisations to implement many individualised treatment plans. They also have a moderate level of predictive validity (Yang, Wong, & Coid, 2010), limiting their utility in institutional settings. Therefore, it is important to not be limited to individual factors and to take into consideration other risk factors that organisations can have control over. These situational factors have the potential to explore environments and external aspects and taken with individual factors can ensure all potential causes to risk are considered and utilised in reducing risk.

2.1.2. Situational risk factors.

Several situational factors have been linked to an increase in violence and aggression among inpatients. Duxbury and Whittington (2005) explored staff and patients views on inpatient aggression and both reported the environment, atmosphere, communication, and mental health as significant influencers in aggression. This was supported by Nijman, á Campo, Ravelli, and Merckelbach (1999) who created a model within psychiatric hospitals to explain how environment, communication, and cognitive thoughts lead

to a vicious cycle of aggression; these findings have been supported in a mental health unit (Duxbury, 2002). A systematic review highlighted similar findings across prison and psychiatric hospitals where situational factors were important in understanding inpatient aggression (Gadon, Johnstone, & Cooke, 2006). Staff and patients within a high secure forensic hospital in the United Kingdom agreed that physical environment and communication were influential in aggressive incidents (Pulsford et al., 2013).

An open living group climate is one based on positive growth with empathising with other patients or prisoners. The aim of this environment is to develop prosocial attitudes and support people in taking the perspective of those they live closely with. The study by van der Helm et al. (2012) in the Netherlands found that this environment buffered against aggression and concluded that situational factors are related to aggression. Furthermore, de Decker et al. (2018) found the support and the possibilities for personal growth aspects of the open living group climate were related to a reduction in the number and severity of aggressive incidents in a forensic adolescent treatment unit in Belgium.

Dickens, Piccirillo, and Alderman (2012) explored the attitudes of staff and patients within forensic units on causes and management of inpatient aggression using the Management of Aggression and Violence Attitude Scale (MAVAS). They concluded that patients were more likely than staff to believe that their environment was the cause of aggression. Both patients and staff agreed on interactional factors such as poor communication and therapeutic relationships as being leading risk factors. The researchers concluded that their results differed from previous research conducted in general psychiatric units as forensic patients were more realistic about de-escalation. It could be that forensic staff members also have a different attitude than staff in acute settings. Further interactional factors were supported by Kelly, Subica, Fulginiti, Brekke, and Novaco (2015) who found that the frequency of conflicts between staff and patients predicted future incidents and how staff responded to conflict moderated incidents where staff who reacted with stress had a higher chance of experiencing inpatient aggression.

One of the key guiding principles on situational factors is Promoting Risk Interventions by Situational Management (PRISM; Johnstone & Cooke, 2008). The researchers agreed

that situational factors have a positive impact in terms of organisational control and the ability to apply the knowledge across whole institutions. PRISM identified five key aspects: history of institutional violence; physical and security factors; organisational factors; staff features; and case management.

Within youth offending institutes, the situational risk factors were influenced across all five domains of PRISM (Cregg & Payne, 2010). Firstly, history of violence was found to be diverse and influenced by geographical gangs of the youths. Both physical and security factors were identified as needing improvement as the young people were frustrated over the cleanliness and staff felt colleagues did not weight the importance of the management of violence. The organisational structure lacked cohesion, communication and understanding of job roles. Participants felt that staff were positive but lacked the appropriate experience and motivation. Finally, there were additional concerns about staff understanding the violence risk of each individual client.

Other research papers have found a similarly positive outlook on PRISM. Johnstone and Cooke (2010) found five

Scottish prisons had problematic areas across all five domains of PRISM, however, the most common issues were in diversity of violence, supervision, effective policies, staffing levels and mix, and staff morale. Similar results were found in a maximum security prison in New Zealand (Wilson & Tamatea, 2010) and in HMP Glendairy in Barbados (Cooke & Wozniak, 2010).

Previous research has explored situational factors within forensic psychiatric hospitals whilst using a quantitative approach. Key antecedents were found to be staff and patient interaction (Quanbeck et al., 2007) and managerial strategies for reducing aggression (Hunter & Love, 1996; Morrison et al., 2002). The layout of the ward with improved personal space and less restrictive regime was found to be important (Daffern, Mayer, & Martin, 2004) after incidents were most likely to occur in high traffic and cramped areas (Chou, Lu, & Mao, 2002; Ng, Kumar, Ranclaud, & Robinson, 2001).

Overall, research has shown the importance of individual factors that lead to the risk of aggression in patients and this has been supported through developed and evidence based risk assessments to understand an individual's

formulation and likelihood of violence. However, recent research has highlighted the importance of situational factors that allow organisations to work towards prevention of violence through implementing new policies and procedures.

Whilst it is felt that both factors are important in understanding what leads to aggression, it is of note that typically patients have cited situational factors as the antecedent to violence whilst staff claim patients are violent due to internal factors. Ilkiw-Lavalle and Grenyer (2003) found a significant difference between what staff and patients thought led to aggression with staff citing patient illness whilst patients emphasised interpersonal factors and the environment as equally important. This pattern was also supported by Duxbury and Whittington (2005). Duxbury (2002) stated "the external and situational models evidently underpin the patient perspective…The internal model, on the other hand, appears to reflect more closely the staff perspective" (p. 332). It could be staff and patients identify opposite factors due to their locus of control being external where people identify antecedents being outside of their control. In other words, staff may state that aggression is due to patient

factors because they do not want to feel responsible or blamed for someone being violent towards themselves or others.

2.1.3. Rationale.

Quantitative research within forensic hospitals has found situational factors to be implicated in patient aggression and PRISM has begun to make sense of aggression with the views and opinions of staff. There could be missing data within quantitative research due to underreporting actual assault numbers and antecedents as most incident forms detail the incident itself and less so the lead up. It is important to gain ward staff views on aggression as the majority of their workload involves direct patient contact and these views could provide valuable insight into what they feel leads to aggression. Furthermore, Dickens et al. (2012) concluded that people in forensic settings had a different attitude to their counterparts in acute services and further research would be recommended to explore whether these differences can be confirmed. A qualitative approach can reduce the methodology difficulties from potential underreporting of incidents as it gives participants an open opportunity to discuss their attitudes to the risk factors associated with inpatient aggression.

Inpatient aggression is an emotional job demand (de Jong, Le Blanc, Peeters, & Noordam, 2008) and it would be beneficial to assess what additional job demands are risk factors to aggression. The JD-R Model can help inform the job demands from the findings as well as support in understanding the role resources have in mediating inpatient aggression and whether adequate resources can prevent violence towards staff members.

The primary aim of this study was to explore and describe ward staff views on risk factors to patient aggression within forensic secure services and to discuss these in terms of previous research.

2.2. Methodology

2.2.1. Ethical approval.

Ethical approval to conduct the study was obtained from the University of Nottingham Ethics Committee.

2.2.2. Data protection and confidentiality.

This study involved face to face interviews with ward staff which were audio recorded for transcription. Only the researcher had access to recorded interviews. No personal

information was identifiable as numbers were used to distinguish the interviews.

2.2.3. Participants.

Six participants took part in this study once data saturation had been met. Participants were told prior that the research was interested in exploring risk factors to patient aggression. They were recruited through advertisements which were sent out to staff within the hospital via email and placed within nursing offices on the ward. The researcher also attended reflective practice space to briefly discuss the project. Interested staff members approached the researcher to set up a time for the interview. The date and times of interviews were flexible, however, all interviews were conducted at the hospital during the participant's shift.

In terms of demographics, five participants were Healthcare Workers (HCW) and one was a Registered Mental Health Nurse (RMN). They worked on either medium or low secure wards with male patients and had a range of experience from five to 30 years.

2.2.4. Consent.

All participants provided informed consent. They were given a Participant Information Sheet which explained that the study was confidential and no personal information would be shared by the researcher to managers or other personnel. It was explained that the interview would be audio recorded and transcribed with participant numbers allowing for full anonymity.

2.2.5. Data Collection.

The study was conducted by a third-year doctorate of forensic psychology student who had worked within private forensic services for three years. The private forensic service the study was conducted in offers treatment and rehabilitation to patients with challenging behaviours and diagnosis of a mental illness and/or personality disorder. A purposive sampling method was adopted to gain the required data as all participants had similar experiences in terms of their experience of patient aggression.

Data was collected using semi-structured interviews which were audio-recorded and transcribed verbatim without any use of software. The interview schedule was based on previous literature outlined above and involved a mix of

open and closed questioning. The interviews took between 15 and 40 minutes.

For the interviews, there was a clear plan of what the focus of the interview should be in terms of gaining an understanding of what they thought was relevant to the causes of inpatient aggression. The goal for the interviews was for the participant to discuss openly and freely their experiences with open-ended questions. The follow up questions and flow of points were based on the participants' responses and information they shared. Participants were not required to disclose their own experience of being assaulted, but several were happy to do so.

All interviews were anonymous so personal details could not be identified. Throughout this report, quotations are shown with italics alongside the anonymous participant name and line number of the quote from the transcript.

For confidentiality and data protection regulations, transcripts replaced third party names with [name] and locations were stated as [location]. Guest, Namey, and Mitchell (2012) explained that phonetic errors ('umm' and

'err') are not required in thematic analysis, therefore these were removed during transcribing.

Patton (1990) outlined several approaches to ensuring the credibility of data analysis. Some of these were not feasible due to time and cost restraints such as 'methods triangulation' where several qualitative approaches like interviews and observations are used, so other approaches to credibility were adopted. Firstly, a second independent coder was enlisted to support in the data analysis. Patton (1990) states that this allows two people to compare their findings to ensure there is no bias in how the data is perceived and interpreted. Secondly, participants were asked to comment and provide any corrections on their transcript. Participants' reactions could be gauged allowing for fair representation of participants whilst checking the accuracy and validity of data analysis. Another aspect of credibility was to explore other explanations for the findings through considering other logical possibilities. In this process, it is important to look into data that supports another perspective.

2.2.6. Thematic analysis.

The interviews were analysed using thematic analysis as it was the most appropriate way to understand the views of participants. Thematic analysis is described as a "method for identifying, analysing and reporting patterns within data" (Braun & Clarke, 2006, p. 79).

Braun and Clarke (2006) published a comprehensive step-by-step guide for completing thematic analysis.

Step 1: Familiarise Self with Data

The first step is to emphasise the importance of knowing your data. Through listening to audio recordings several times followed by transcribing and repeat reading of transcripts, the researcher ensured data was not missed or misinterpreted.

Step 2: Generating Initial Codes

In this step, the researcher explored extracts from the data for potential codes. Data extracts that appeared meaningful were lifted from transcripts and several potential codes were identified (table 1).

Table 1: *Data extract, with codes applied*

Data Extract	**Coded For**
I think the major problem we have in this organisation is inconsistency, so when you have a consistent routine or rules then you look after your staff, I think that they do not.	1. Routine is a protective factor for staff 2. The organisation is responsible for ensuring consistent routines 3. There is a lack of support

Step 3: Searching for Themes

The potential codes for each data extract were read through and combined into broad themes. The broad themes captured a lot of data initially so the researcher was mindful of internal homogeneity and external heterogeneity ensuring the proposed data extracts within themes cohered meaningfully but all themes were distinct (Patton, 1990).

Step 4: Review Themes

The researcher reviewed themes to check whether there was enough data to support them. The themes were altered at this stage to either become broader or narrower based on the support they had. It appeared that some data extracts were meaningless or could satisfy two themes

going against external heterogeneity. Therefore, each data extract was reviewed and moved or removed if necessary.

Step 5: Redefining and Naming Themes

Finally, the themes were named based on common words used in the data extracts. The aim was to tell a story with the data so subthemes were identified if needed enabling a hierarchy of information to be presented and to better understand the views of participants in each overarching theme.

2.3. Results

A thematic map of the main themes and subthemes is presented in Figure 1. Quotes are provided to give examples within themes, all relevant quotes are presented in Appendix 1.

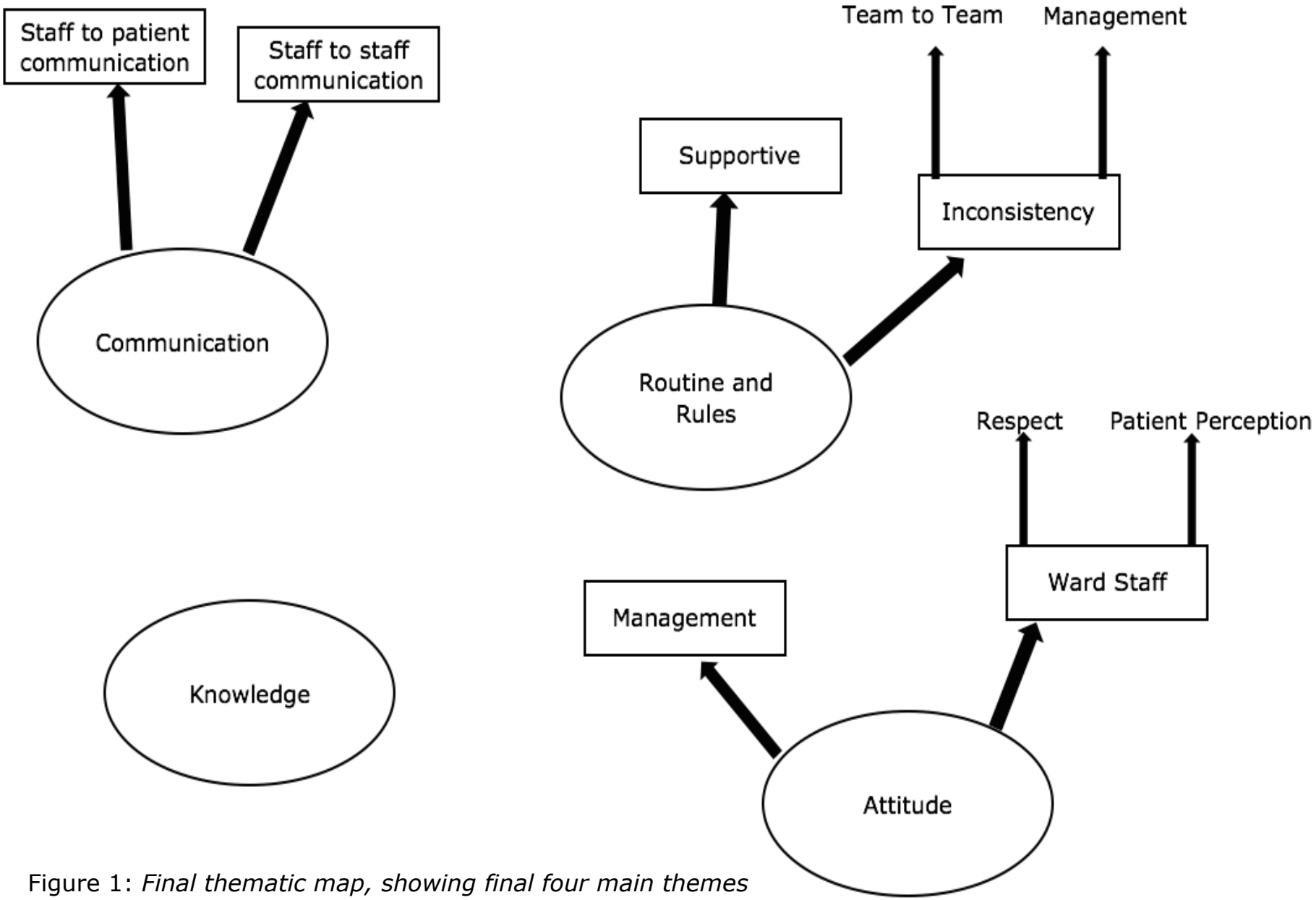


Figure 1: *Final thematic map, showing final four main themes*

2.3.1. Theme 1 – communication.

Communication was frequently cited by participants as being the main cause of patient aggression. Two subthemes emerged from this overarching theme; how staff communicate with patients and how staff communicate with each other.

2.3.1.1. Subtheme 1 – staff to patient communication.

The participants found that staff communication style could be perceived as argumentative especially in terms of their tone of voice. A negative tone of voice was not seen as purposive but, rather, was how staff typically communicated.

> *Participant Six (25): Sometimes even your tone of your voice it makes a big difference. You can use the same line but the tone of your voice of how you speak can make it complete different. And obviously the patient can take it very offensively. It blows out of proportion because of the tone of voice.*

In addition to staff tone of voice, participants perceived communication as lacking due to what staff members say

to patients when they do not know the answer so are unaware of how to explain things to patients.

> *Participant Four (84): If a patient asks and you're not as sure… don't make up something. If you don't know you will go and ask someone a bit more senior… they don't want to be fobbed off or… you're unsure of something but you're just giving it for the sake of it and it happens to be wrong and there'll be repercussions*

It appeared that staff were not aware of their communication style and it could be in response to a high demand shift when they feel stretched with their duties. Nonetheless, staff should be aware of how to communicate with their patients in different situations. The situation may be heightened already and the negative tone of voice or not knowing an answer could affect a patient more so than when the ward is calmer. As previous research has highlighted ward atmosphere as being a risk factor, staff to patient communication could be a factor that affects the atmosphere. It could lead patients to not feel safe in their environment if they feel they are being unnecessarily

critiqued with the tone of voice or received a ‘no’ response from staff.

2.3.1.2. Subtheme 2 - staff to staff communication.

Participants who had a recent experience of patient aggression related the incident to the communication of senior staff. For example, Participant One described how the nurse in charge did not provide a full debrief when asked to speak to a patient as the participant ‘never knew the guy was already escalated’.

> *Participant Five (223): the doctor will come in and tell the patient something like leave so you can go out but won't communicate it to the team, so the patient will come and say 'oh I've got leave now' and staff will be thinking 'when did that happen?'… then the arguments start… if you communicate something to the patient, make sure the team knows or communicate to the team first then you tell the patient.*

Senior staff can influence the resources of a job role through supporting employees and providing appropriate means to complete tasks and handovers. However, when

this was lacking it is likely to create an increase in job demands as staff needed to seek out decisions of senior management which creates extra duties and took them away from their main role of caring for patients. It would also lead to additional stressors as they are not included in clinical decisions so staff members may not feel they know their clients enough. As the participants felt that aggression occurred due to a lack of communication and was not a reliable tool to support the job demands, staff communication was seen as a resource which would prevent the demand of aggression. Therefore, this subtheme was related to the JD-R Model.

2.3.2. Theme 2 – ward routine and rules

2.3.2.1. Subtheme 1 – support.

Participants observed that patients enjoy having routine, rules and structure in their daily living on the ward as it gave them a sense of safety and frustration can arise when this routine is broken.

> *Participant Four (4): they know that everyday what time their fresh air, what time their medication so when they don't get this time they will see them their aggression level will start so*

and these patients they know, they can't expect to be waiting 5 minutes because you tell to wait they will again, they will just escalate.

Participant Six described patients feeling 'lost' (58) when ward routine is changed whilst Participant One feels it is 'confusing' (108) for patients and supported the idea that routine is positive for patients in having familiarity. When this is broken, the ward environment becomes confusing for patients as they would not be clear on where they stand nor be confident in knowing the rules of the ward. This could lead to patient aggression as environment has been shown to be a situational risk factor in previous research and being clear on their environment is crucial in preventing frustrations arising.

2.3.2.2. Subtheme 2 – inconsistency between teams.

Whilst participants explained ward routine needs to be flexible, some participants felt this routine was regularly and casually altered by ward staff.

Participant Six (86): some staff just sort of let go in the sense…they can't be arsed…It's like we want the rules there but we can bend the rules.

Within the hospital, wards are made up of different teams and a lack of routine was observed between these teams. When these different teams implement different routines, it undermines the original routine leading to patients questioning the teams and potentially creating an escalation situation as well as 'animosity' (Participant Five, 251) between staff members. This would have an effect on the ward atmosphere in a negative manner as it created tension in the environment, staff members may be vocal in their frustrations and feel stressed when attempting to manage the inconsistent situation at hand. People being stressed and potentially voicing this stress to other colleagues or on the ward would change the atmosphere which patients would observe. Ward atmosphere has been shown to be a situational risk factor and would explain how inconsistent teams would also be a risk to inpatient aggression.

> *Participant Six (76): one team will come in… they could be asking you 'we were told we could be having this at any time' and no…this is what is actually in place and we are trying our best to follow it…it can go into a different direction*

completely by not setting the same rules and a continuation.

Moreover, from the views that ward staff change routine and rules, an emerging narrative was that management lack the ability to enforce the routines and rules meaning there is no foundation for staff to impose the correct routine.

Participant One (99): I think the major problem we have in this organisation is inconsistency. So, when you have a consistent routine or rules then you look after your staff, I think that are not helpful… Today they [Management] will tell you one thing then tomorrow they will tell you 'don't worry about it'.

Poor support from colleagues and management fits in with the JD-R Model as it fitted into the definitions the model provided for job demands and resources, therefore, the model can support in understanding this subtheme. Poor support reduced the resources staff have available to them to complete their duties whilst increasing job demands as

staff felt they needed to spend time on their shift attempting to implement the regular routine.

Another difficulty that could arise from this perception of poor support is that staff members may not feel comfortable to raise their concerns and seek out support in creating consistent routines and therefore the issue of inconsistency was perpetuated and the ward atmosphere will not be improved. This would increase the job demands as defined by the model at work as it created additional psychological and social stress. Johnson, Worthington, Gredecki, and Wilks-Riley, (2016) found that staff who reported boundary violations in a forensic psychiatric setting reported more DP and staff members who reported more impact of these boundary violations reported higher scores of EE and DP. In addition, Johnson et al. (2016) concluded that professionals have reduced trust with colleagues if they have high scores of EE and DP and would not approach colleagues to discuss issues. Therefore, this study supported the conclusion that inconsistency within teams could have a detrimental role in employment and increase job demands as it would impact the trust within staff, prevent open discussions, and lead to higher burnout

scores. These combined would affect the ward atmosphere which has been shown to be a situational risk factor.

2.3.3. Theme 3 – attitude.

This theme focused on the attitude ward staff had towards their patients and how patients may have perceived them but also the perception of the attitude of management and how management may make ward staff feel.

2.3.3.1. Subtheme 1 – ward staff.

The attitude of staff towards patients had the potential to have a negative effect on patient behaviour whilst it also had the potential to support therapeutic relationships and decrease incidents of patient aggression. Therefore supporting staff members on their attitude towards patients would be a positive job resource to reduce the demands of the role as it was seen as a helpful tool.

> *Participant Three (10): the attitude of the staff to the patient will bring out the best or bring out the worst… we need to treat these people as normal as possible…you get the best out of them.*

However, among participants the attitude of staff was not observed as positive. Participants described staff in a way that appeared they dismissed the patients and had a preconceived idea about them meaning they were less willing to support and engage specific clients. This could be a sign of DP within the concept of burnout which is described as the development of a cynical attitude to others. As outlined previously the low resources in the JD-R Model led to DP. Low resources have been a common theme in these findings so could have led to DP which is suggested here and could also be a risk factor to inpatient aggression.

> *Participant Five (99): some staff maybe they will pick and choose people who they can actually relate to. Sometimes the patients have been so difficult on the ward, they take it in which it shouldn't be, they should be professional about it, no matter who comes along… you are here to basically look after them and support them… when a patient comes, they say 'oh he's always like that, just ignore him' but they shouldn't. If you work in a professional manner… regardless*

of what he's done a day or 2 weeks ago, 3 weeks ago, just take it as a professional.

The concept of respect was echoed by participants who discussed whether staff interacted with patients with an element of respect and whether the care within psychiatric hospitals, in general, came with respect.

Participant Three (52): when you work in a general hospital, the things we do must be respectful, must be with dignity, must be purposeful, must be involving. When you look at these same principles of caring in a psychiatric hospital, something is missing and this is what we need to bridge and the bridge is respect.

2.3.3.2. Subtheme 2 – management.

Participants discussed the attitude of management and, again, this was not always seen in a positive way. A common thought was that management and senior staff managers regularly stayed in their office and were not present on the ward which could negatively affect ward routine and job roles which, in turn, could increase the job demands due to the additional psychological and

organisational aspects of the job. As the JD-R model defined resources as aspects that support job demands, a positive management presence was seen as a job resource in this setting.

> *Participant One (184): Because they do nothing, they sit at computer all day. Nobody to support you, nobody to tell you what to do…they are abusing the experienced staff on a daily basis.*

One participant, who was an RMN and perceived as senior staff, discussed how he was encouraged to spend less time with the patients. Hence, this appeared to corroborate HCWs reports that management feel senior staff should stay in the office whilst HCWs are expected to be the main ward presence.

> *Participant Three (197): I talk too much to disengage an aggressive outburst, I talk too much to make a person simmer down and de-escalate but then you before you sort of say to me 'yes, you're doing well' it puts me down to say 'you spend too much of your time with them' that's what I get from people who I work with.*

However, many of the participants noticed a supportive difference for patients and staff when senior staff were present on the ward. The participants observed patients finding it positive when they were able to see a managerial presence allowing for pressure to be taken away from ward staff. This subtheme would support a reduction in risk factors to patient aggression as it would lead to a positive ward atmosphere and environment as well as improve the communication across all levels of the setting which have all been shown as risk factors in previous literature.

> *Participant Two (36): Yes, if you've got a good manager like, say they will come and approach patients on a regular basis, I would say the ward would be generally well controlled and not sort of, patients getting you know, getting off key and something like that. Normally they don't want to speak to us, they want to speak to managers to get more hierarchy and the buck sort of stops there. Yea so when the manager shows a lot of sort of face on the ward basically, you tend to see that the patients are more calmer.*

Clear job roles are an important aspect to employment, however it appeared to be having a detrimental effect if these boundaries are too rigid. The participants had a strong belief that senior staff members separated themselves from the healthcare workers to the extent that they were less present on the ward. This can lead staff to feel undervalued and animosity towards those who are perceived as staying in the nursing office. The motivational process of the JD-R Model stated that staff are motivated to attend work if they perceive positive resources for their role. Therefore, this subtheme could create the negative emotions and thoughts towards the organisation and undermine the motivational process as frontline staff will perceive extra job demands and low resources due to beliefs that senior staff members are not a presence on the ward.

2.3.4. Theme 4 – knowledge

Some staff were perceived as not being knowledgeable in their job role in terms of the duties on the ward, ward culture, and how to manage patients.

Participant One (56): It's got to do with training because if we have basic training of what the job is all about then I think we will be more competent at the job and with the patients… It contributes a lot, especially, if you know what you're doing what the job and you know what it's all about… then I think it will help.

This lack of experience linked into the communication style of staff as it was perceived that by lacking experience those staff members were more likely to tell the client they do not know something or respond incorrectly.

Participant Four (54): you have like an inexperienced staff or agency, then obviously they say to the patient when they ask for something 'I don't know' or that can cause you can see a bit of, you know some sort of aggression in the patient behaviour.

Similarly, when staff were inexperienced it put additional pressure on the ward staff due to the need to support them which may take them from the core duties of caring for their patients. In addition, there was a sense of morale

being lowered when permanent staff members were having to support these inexperienced staff and take on extra duties whilst agency staff were paid higher salaries. As stated in the JD-R Model, there needs to be enough resources to manage the demands of a job. Therefore the JD-R Model informs this subtheme as it highlighted how demands increased due to a lack of resources with covering staff shortage with appropriate staff members.

> *Participant Five (179): On the staffing side, there is always people you need to carry along and some people can do things without being told*

Furthermore, there was the perception that management did not fully induct and train the new staff leading to these issues in a lack of knowledge and how they did not wish to hire people who were competent.

> *Participant Three (186): I think managers should be focusing in getting the people who are able to do this job competently, or training the people do to the job competently and they must be able to invest.*

Participant One (156): The management, they need to step up in terms of training and the kind of people they employ… If you want Gucci, you go for Gucci and you pay for Gucci. At the end of the day my concerns is why should agency be paid higher when we do all the job.

2.3.5. Summary results.

A summary of the areas discussed in this section have been presented in table 2.

Table 2: Summary of Results

Findings	Conclusion
Communication	Staff to patient communication can be seen as harsh due to the tone of voice staff use. Furthermore, staff lacked the knowledge of the ward which led them to communicate negatively to the patient by providing him with false information or simply telling him that the staff does not know the answer. Staff to staff communication was also viewed as negative where senior staff do not fully communicate debriefs to ward staff nor handovers on developments regarding certain patients.
Ward Routine and Rules	Patients like to have their routine on the ward and staff find routine to be supportive in terms of managing behaviour on the ward. However, it is felt that some staff alter the rules of the ward to satisfy patients they deem as chaotic and the biggest danger is how different teams care for the same patients in different ways leading to confusion and annoyance from both staff and patients. Furthermore, it was felt that managers can be just as inconsistent with adapting ward rules and not enforcing the agreed routine.
Staff Attitude	Participants described staff in a way that suggests they have preconceived negative ideas about the patients and can easily dismiss patients' thoughts and requests. The attitude of management and senior staff members was also questioned. Many ward staff perceive these staff members as staying in their office and not being present on the ward which leaves a lot of duties to healthcare workers without appropriate support. However, when senior staff are present, there is a positive effect on patients and healthcare workers where they feel supported and listened to.
Knowledge	Some staff members lack knowledge on the job role and how wards work meaning they may not answer patient questions correctly leading to potential frustration. Staff feel they may need to carry these inexperienced staff members through the shift and they perceive management as be unwilling to hire competent staff or to train the new staff members in an appropriate and effective manner.

2.4. Discussion

2.4.1. Findings in relation to study aim

The overall aim of this study was to explore staff thoughts on risk factors to inpatient aggression specific to a forensic secure hospital. Whilst previous studies have explored staff perceptions in psychiatric hospitals or forensic settings (prison or youth offending institutes), this study combined the settings with a qualitative approach and looked into secure forensic hospital where staff work with individuals who have combined forensic history and diagnosis of mental illness and/or personality disorder and are detained under the Mental Health Act (1983, revised 2007).

The findings from this study showed staff perceive risk factors of patient aggression to be around staff communication, knowledge, attitude, and the routine and rules of the wards. The findings indicate that staff experiences of risk factors for inpatient aggression can be explained in terms of situational factors and individual factors of staff members over individual factors of the patients.

The results support previous findings from psychiatric and forensic settings in terms of the ward environment,

atmosphere, and communication (Dickens et al., 2012; Duxbury & Whittington, 2005; Nijman et al., 1999). The results found similar situational factors but also explained how the overarching factors could occur. For example, ward atmosphere is related to inpatient aggression and this study highlighted how poor communication styles, inconsistent teams, and a lack of staffing resources were common themes in negatively affecting the atmosphere.

Furthermore, this study was informed by the JD-R Model to understand how other high job demands and low resources may influence the job demand of inpatient aggression. Participants discussed low resources in terms of inadequate communication from other staff members, poor support with inconsistent routines, limited presence of senior staff members, and shortage of staff members who know the job role. These low resources did not support in managing the demands of the job and created additional job demands in terms of needing to cover more duties and work towards a consistent routine which should have been followed across ward teams. The low resources influenced many of the risk factors to inpatient aggression such as ward atmosphere and environment. The areas discussed within this study highlighted a strain between teams and different

job roles which could negatively affect the ward atmosphere which patients may observe. Similarly, consistent teams and a strong managerial presence would enable a productive ward environment which works positively towards supporting patients and staff members. In addition, the low resources appeared to impact the motivational process of the JD-R Model which the participants discussed in terms of not feeling supported and having to work harder to cover the gaps whilst not feeling that this was appreciated. Some of the identified risk factors could arise from elements of burnout within staff members which has been found to be related to the JD-R Model. The attitude of staff and poor communication style could stem from the development of a cynical attitude which is related to DP. As this study highlighted how high demands and low resources can lead to inpatient aggression, it could be that the staff members experienced levels of burnout which has previously been shown to be related to high demands and low resources. This will be further explored in the quantitative work of this thesis.

It is of note that the participants in this study identified several risk factors for inpatient aggression that staff do have control over but, ultimately, felt it was not

controllable due to other staff members in the hospital. For example, staff communication, consistent routine and staff attitude could be improved through peer support but were, instead, attributed to other staff members and the responsibility of the organisation to improve training and staffing knowledge. The factors found in this study were contrary to the conclusion by Duxbury (2002) who found the situational model underpins the patient perspective whilst staff were more likely to adhere to the internal model of aggression. This finding could be explained using the JD-R Model. Participants in this study perceived their employment as being high demand and low resourced due to poor management and inconsistent support. This make up of a job can put staff at risk of developing burnout and having a poor motivation towards the organisation. The staff may not be motivated to work for the organisation meaning they are quick to blame the organisation for the risk elements to their job role. Similarly, low motivated staff may be more inclined to identify the negative aspects within their job role and have a desire to blame others for the stress they experience. Therefore, poor management structure can lead to high demands and low resources within jobs whilst low resources will lead to a lack of motivation in seeing their employers as a positive force.

Furthermore, Johnson et al. (2016) discussed how high scores of EE and DP led to a reduction in trust with colleagues and reluctance to approach the team to discuss issues. This could further suggest that the participants would score high on burnout and would be more likely to not trust their colleagues and see them as to blame for difficulties on their wards.

The findings from the current study also support the quantitative research which found staff interactions with patients (Quanbeck et al., 2007) and managerial implementations (Hunter & Love, 1996; Morrison et al., 2002) are potential risk factors for inpatient aggression. In terms of PRISM, the findings in this chapter show support for conclusions from different settings. The similar risk factors identified across these two approaches include the perception that the organisations lack cohesion and communication skills whilst there is a general lack of understanding clear job roles (Cregg & Payne, 2010), and policies in identifying and managing risk are not effective (Johnstone & Cooke, 2010). Therefore, as there are similar risk factors being identified, it would be worthwhile in completing the full PRISM principle in forensic healthcare settings.

2.4.2. Implications.

As this study highlighted that inpatient aggression is caused by low resources which either created additional demands or did not support staff members in managing typical demands several implications and suggestions can be provided to support in reducing patient aggression in secure forensic hospitals. It is important to boost the resources available to staff members which will mediate the job demands and improve the motivational process which has two benefits in terms of reducing the risk factors to inpatient aggression, increasing staff morale and in preventing the development of burnout.

2.4.2.1. Training.

Several training needs were identified by participants. The most common form of training was communication. Training can be implemented to support staff in understanding the importance of patient-staff interactions, and this can increase awareness of how staff may be perceived by patients and skills to ensure cultural differences and tone of voice do not negatively impact the formation of therapeutic relationships. Communication training can further provide support to staff in

understanding how to talk to individuals, the role of body language, the way to approach patients, and how to communicate when unsure of answers. It would also be crucial for senior staff and management to be trained appropriately on the importance of patient debrief and skills in how best to communicate relational security matters to ward based staff.

A further training need is orientation to new staff and for a refresher for current staff each year. Newly appointed ward staff need to know fully about the organisation and expectations, as well as the environment they will be working in, to improve their understanding of the challenges that may arise on shifts and to allow for skills practice. This orientation should cover what mental illness is, how imperative it is to treat the patients as individuals, and how patients are treated in other healthcare settings. By training staff on what mental health is then it can support in humanising the patients, improve staff attitudes and bridge the gap of respect which was raised by participants in this study, which in turn, should improve the communication of staff.

2.4.2.2. Active managerial support.

One issue raised was the perception of the attitude of management and senior staff members. It may be that management are unaware of the perception they have and unaware of benefits of having active management and senior staff presence on the ward. These findings can improve organisational insight into these issues so they can direct more presence on the ward which would improve the perceived attitude by other ward staff and they can feel supported as part of a team. It is also important for ward management to implement measures to ensure consistency between teams. This can be improved through enhanced individual supervision as well as meetings where different teams can meet and discuss any issues for improved peer support.

2.4.2.3. Active recruitment process.

The shortage of psychiatric nurses is a countrywide problem (Thomas, 2017). However, hospitals need to take an active role in improving the recruitment process, retention in staff and addressing issues raised in exit interviews of staff who have resigned. It is important for the organisation to consider the environment staff are working in as well as professional development. By showing new and regular staff how they can develop professionally

in terms of training, progression, and responsibilities can improve the morale of staff and provide beneficial reasons to continue working in this setting. Participants felt new staff were unaware of the job duties so by conducting an active recruitment drive and advertising potential areas of development could entice experienced staff to start at a different organisation where they begin work having an understanding of the environment.

2.4.3. Credibility.

It is important to ensure the credibility of qualitative research. As discussed previously, several steps were used from Patton (1990) such as a second coder, participant feedback and to explore other perspectives. Whilst exploring other perspectives there was limited ways of organising the data differently as other approaches did not hold the same weight as themes discussed in the results section. Whilst this process is not to disprove these other possibilities, the weight of evidence within other means were not as strong as the themes presented.

2.4.4. Limitations.

This study does come with some limitations. Qualitative research typically explores a specific issue within a certain

population so findings can only be generalised to comparable groups with similar experiences and demographic traits. However, qualitative research typically aims to provide meaning and support to existing literature and this current study supported findings from quantitative research conducted in secure forensic settings and built upon existing qualitative theory and research. Hence, this study appears to have some grounding and representation of existing literature.

Another limitation to this study was the sample. It was limited to six participants who were recruited from one hospital and predominantly HCWs. Whilst these participants had experienced or witnessed patient aggression leading to valuable viewpoints, it would have been beneficial to explore the views of senior staff or staff who had resigned from the setting due to patient aggression. This links back to credibility and may make future research stronger in this area by exploring the views of those who have left the profession or setting and gaining critical information on this subset of participants to improve risk management.

2.4.5. Conclusion.

This current study explored the views of ward staff on risk factors to inpatient aggression within a secure forensic hospital. It is vital to gain an understanding of ward staff views as they work directly with patients and may provide valuable information that is missed in incident forms. Several factors leading to patient aggression were identified and discussed. The findings supported previous research on situational risk factors to aggression and provided further information around how these factors may occur. The study also found that aggression is related the JD-R Model as low resources either created additional demands of the role or did not support staff members in mediating the typical demands. Therefore, it is important to explore whether staff members score high on burnout levels due to the relationship between the JD-R Model and burnout. This is explored in the quantitative strand of this thesis. These findings led to recommendations for organisations to adopt and explore to aid in reducing inpatient aggression which staff within forensic hospitals unfortunately have had to experience.

3. CHAPTER THREE: A PSYCHOMETRIC CRITIQUE

The Maslach Burnout Inventory (MBI)

Abstract:

Introduction: Burnout is a psychological response to stress in the workplace that can lead an individual to become exhausted and cynical with reduced personal accomplishment. The Maslach Burnout Inventory (MBI) has become a prominent assessment tool for burnout with its use in previous research and clinical practice as well as being used throughout this thesis. There has not been a succinct critique of the measure as a whole so his critique aims to identify the strengths and weaknesses of the psychometric properties of the MBI.

Methods: The aim of the critique was investigated through looking into a range of research such as meta-analyses, cross-cultural and large scale studies. Studies were identified during a search in Spring 2016.

Main findings: The majority of research has supported the MBI with internal and test-retest reliability and being satisfactory across a range of types of validity. Due to the social construct and concept of burnout, some research showed the MBI to not satisfy certain areas of reliability

and validity. However, these limitations were shown to be in isolation.

Conclusion: It was concluded that the MBI is an effective, valid and reliable tool with support for the three-factor structure of the concept.

Keywords: MBI, Burnout, Reliability, Validity

3.1. Introduction

3.1.1. Burnout.

Understanding the workplace is a vital area for research as it is a dominant part of people's lives. It is crucial that we are able to adapt to it and move towards preventing work from having adverse effect on peoples' lives and mental well-being; an individual's ability to cope with normal stresses in life and work productively. Ensuring mental well-being is beneficial to the employee, service users and organisation on a whole ("Wellbeing at Work", 2009). Burnout is a psychological syndrome that may emerge when employees are exposed to a stressful working environment, with high job demands and low resources (Bakker & Demerouti, 2007; Maslach, Schaufeli, & Leiter, 2001). Burnout can have a negative impact on an individual's anxiety, self-esteem, coping strategies and job satisfaction as well as client satisfaction (Argentero et al., 2008; Corrigan et al., 1994; Ozyurt et al., 2006; Piko, 2006; Vealey et al., 1998). 15 million working days were lost in the UK due to stress, anxiety or depression which are possible consequences to burnout ("Full Report: Sickness Absence", 2014). Therefore, as burnout is associated with a variety of adverse effects which could impact someone's sense of identity, work ability, and

general well-being, it is important for researchers and organisations to gain a true understanding of the concept. To be able to do this, there needs to be a respected, reliable and valid means to measure the construct of burnout.

3.1.2. Maslach Burnout Inventory (MBI).

It is widely accepted that it is necessary to quantify and measure social constructs and not be limited to only empirical interventions and assessments within the area of occupational stress (Kline, 1998). The MBI has been used to allow this to happen in the field of burnout and occupational stress (Maslach & Jackson, 1981b). It was developed as a means to reliably measure burnout within organisations especially healthcare settings. The MBI is considered to be the leading measure in burnout. The current review aims to assess the scientific properties of the measures and how well it can be implemented and applied to organisational settings.

3.1.3. Rationale.

Furthermore, the role of burnout is a prominent aspect in this thesis. The JD-R Model is used throughout the chapters and was created as a means to understand occupational

stress with the original authors specifically exploring burnout (Demerouti et al., 2001). The quantitative research in this thesis took on another specific exploration of burnout as a consequence of inpatient aggression whilst the systematic review understood what coping is successful in mediating occupational stress with some of the included studies looking into burnout. Therefore, as burnout is prominent in previous research and in this thesis, it is important to understand the concept and appropriate ways it is measured. The common way to measure the construct of burnout is with the MBI which is used in the subsequent chapters of this work. Therefore, to understand how burnout is measured and the MBI use it is important to critique the measure to ensure it can be used with confidence in this thesis. The critique is placed here within the thesis as the MBI is used in the subsequent chapters but not in the previous qualitative work.

3.2. Development of the MBI.

Before the MBI was developed, Forney, Wallace, Schutzman, and Wiggers (1982) used structured interviews to assess burnout; however, other researchers did not pursue this method. Haack and Jones (1983) developed projective drawings as a burnout measurement.

Participants drawings on how burned out they were feeling were rated by two psychologists on a 4-point scale ("not burned out" to "very burned out"). Participants were categorised into low or high burnout. Drawings depicting high burnout consisted of exhaustion, isolation and being broken. Whilst projective drawings may yield positive findings (e.g., themes of exhaustion, powerlessness, and feeling overwhelmed), they are of limited reliability due to lack of clear criteria for assessment.

While other measures of burnout exist within the wider literature, many lack the empirical evidence base (Schaufeli, Leiter, & Maslach, 2009). The Burnout Measure is a regularly used tool and consists of a 21-item self-report tool, in which respondents rate their experiences on a seven-point scale (Pines & Aronson, 1988). While this measure is a useful tool, there is a lack of normative data on which to base interpretation of the findings, particularly with regard to non-random samples (for example, the normative sample was based on attendees of burnout workshops, and therefore, selection effects may influence the findings). The MBI developed upon this by providing a range of normative data from different occupational populations.

Christina Maslach recognised that burnout has serious consequences for workers and clients in their care. Research conducted in a variety of settings showed that burnout can have a negative impact on patients by decreasing the quality of care. It can also contribute to job turnover, absenteeism and low morale among workers, as well as insomnia, substance use and relationship issues (Maslach, 1976, 1978, 1979; Maslach & Jackson, 1981b, 1981c, 1984, 1985; Maslach & Pines, 1977; Pines & Maslach, 1978). As discussed in the previous chapter, the MBI is a 22-item self-report measure assessing the three constructs of burnout; EE, DP, and PA.

The MBI items were developed through a process of exploratory interviews and questionnaire data regarding the attitudes and feelings of workers. The measure was administered to large samples. The preliminary MBI measure consisted of 47 items, each of which assessed the frequency and intensity of an experience. The 47-item version of the tool was administered to 605 health and service staff personnel (as cited in Maslach & Leiter, 1997). Factor analysis yielded 10 factors that accounted for three fourths of the variance observed. The researchers then

applied selection criteria reducing the number of statements from 47 to 25. The first criterion was a factor loading greater than 0.4 on only one of the factors; second, a large range of participant responses; thirdly the statement needs to have a low percentage of "never" responses, and finally, a high item-total correlation.

A new sample consisting of 420 staff members were given the 25 items in order to complete confirmatory data analysis (Maslach & Leiter, 1997). Due to the factor analysis being very similar to the previous sample, both samples were combined (n=1025). Four factors became apparent. Three factors had eigenvalues greater than unity, resulting in a three subscale structure of the measure consisting of 22 items.

Further research has supported the three-factor structure of the MBI. Iwanicki and Schwab (1981) found the item structures were synonymous with Maslach and Jackson (1979) with a sample of teachers and was further supported by Gold (1984). Significant results for the three-factor structure have also been shown in samples of professionals in healthcare settings (Gil-Monte, 2005; Poghosyan, Aiken, & Sloane, 2009). The support for the

three-factor structure shows that EE and DP were found to be distinct but related constructs, as both assess psychological and physiological stress. PA was found to be an independent component of burnout that related to control-oriented coping (Lee & Ashforth, 1993).

3.3. Psychometric Properties

Psychometric testing is an objective measure as opposed to interviews and observations which are subjective measures. It is important to ensure that the psychometric measure has sufficient levels of reliability and validity as well as appropriate normed data (Kline, 2013). The following sections will critically analyse the MBI in terms of the different areas of psychometric properties. As discussed, burnout consists of three components which are scored independently from each other. Due to this, the three components are assessed separately for their reliability and validity.

3.3.1. Self-report.

The MBI is a self-report measure. This is beneficial as it can be cost-effective and quick to administer meaning a larger sample size can be attained. However, self-report measures also have drawbacks due to introspective ability

and socially desirable answers. The questionnaire requires the participants to think about their own attitudes and biases. Introspective ability is said to occur when a participant is unable to do this effectively due to not assessing their internal state accurately. In terms of socially desirable answers, participants may answer questions as to how they think the researcher or peers may respond. They may exacerbate or downplay their answers to appear better-adjusted and desirable participants.

Maslach and Leiter (1997) proposed optimal testing environments to minimise the negative impact of self-report questionnaires. Participants should be ensured privacy to prevent them observing their peers' responses. Participants should also be discouraged from discussing items with peers or family members as answers could be influential. Confidentiality needs to be assured in order for them to feel comfortable in disclosing any information. Finally, the nature of the measure needs to be kept from the participant before and during study completion. Maslach and Leiter (1997) felt participants gave a fairer self-report when they were not aware of the nature of the measure. Once the participant has completed all

questionnaires then the debrief sheet will go into details on the aims and measures of the current study.

3.3.2. Appropriate norms.

When using psychometric measures, it is important to use them in reference to normative data. This is data obtained from a sample that is similar to the target audience. It provides a reference point with which the data can be compared, assessed, and concluded from. A point of reference is vital for researchers as otherwise the psychometric measure scores can appear meaningless and hard to interpret.

The MBI manual (Maslach et al., 1986) provides large samples of normative data for a wide range of occupations such as medicine (n=1104), mental health (n=730), social services (n=1538), education (4163) and "other" professions (n=2897). The normative data provides information for all three subscales and enables the interpreter to get an understanding of the cut-off points for low, medium and high burnout, for example, in education, low levels of burnout are found below 16 points for EE, below 8 points for DP and above 37 points for PA. Conversely, high levels of burnout are found above 27

points for EE, above 14 points for DP and below 30 points for PA. Clearly, this enables the interpreter to easily plot the individual's MBI scores in reference to data from large samples. This can allow for further exploration into the extent of burnout in organisations compared to other similar places of employment.

3.4. Reliability

3.4.1. Internal reliability.

Internal reliability refers to the extent with which a measure is consistent with itself, in other words the extent with which items within a scale measure the same factor. Internal reliability is measured using Cronbach's alpha coefficients. A widely accepted way of describing Cronbach's alpha scores state that 0.9 above is excellent, 0.9-0.8 is good, 0.8-0.7 is acceptable and under 0.7 is poor (George & Mallery, 2003). Maslach et al. (1986) found reliability coefficients for EE as 0.9, DP as 0.79, and PA as 0.71. Therefore, DP and PA have acceptable scores and EE scored excellently allowing researchers to interpret MBI results with a higher degree of confidence. Further research has oscillated for EE between 0.85-0.91, DP between 0.58-0.79, and PA between .71-.82, however, results in general support the MBI in having good internal

reliability (Aguayo, Vargas, de la Fuente, & Lozano, 2011; Loera, Converso, & Viotti, 2014; Richardsen & Martinussen, 2005; Soler et al., 2008).

3.4.2. Test-retest reliability.

Another form of reliability is test-retest reliability. Measures need to ensure they provide consistent results over time. To investigate this, researchers administer the measure at baseline and repeat it at predetermined or undetermined time intervals. These scores are then correlated using measures of test-retest reliability which assumes that human behaviour is constant and relatively stable over time. However, MBI measures external stress within the workplace which can fluctuate over time. Therefore, it may not be surprising if MBI has poor test-retest reliability.

Despite this, research has found significant results for test-retest reliability. The MBI manual (Maslach et al., 1986) reported reliability for two samples. In the first instance, MBI was given to students at an interval of 2 to 4 weeks. A reliability coefficient of .82 was found for EE, .60 for DP and .80 for PA. These scores ranged from low to moderately high. However, all subscales had significant p values of less than .001. The second sample reported in

the MBI manual was conducted on 248 teachers with an interval of 1 year. The reliability coefficients for this sample were .60 for EE, .54 for DP, and .57 for PA. Balogun, Helgemoe, Pellegrini, and Hoeberlein (1995) found coefficient scores of .85 for DP, .907 for EE, and .715 for PA. Additionally, Corrigan et al. (1994) found high levels of test-retest reliability with p levels of less than 0.001 when the measure was conducted at eight months intervals within a psychiatric hospital. Richardsen and Martinussen (2005) assessed test-retest reliability with a six-month interval among 694 human service workers; EE had coefficient score of .72 whilst DP was .61, and PA was .58.

3.5. Validity

3.5.1. Construct validity.

Maslach and Jackson (1981c) focussed on two types of validity: convergent and discriminant validity. Together, these make up construct validity. Construct validity is seen as a main area of focus as it emphasises how much the measure truly assesses the construct it is designed to measure (Westen & Rosenthal, 2003).

3.5.2. Convergent validity.

Convergent validity evaluates whether measures that should be related are in fact related, where it would be assumed that measures assessing the same concept would be associated. (Maslach & Jackson, 1981c) showed convergent validity in several ways. MBI scores and behavioural ratings by participant's colleagues were correlated. Colleagues anomalously assessed co-workers and found a positive association between behavioural ratings in the workplace and scores on the MBI. Co-workers who were seen as emotionally drained and physically fatigued scored higher on EE and DP. Scores on MBI were also related to close family members' behavioural ratings. Staff with high EE scores were more likely to present as tense, tearful, or physically exhausted at home.

Convergent validity has also been assessed by comparing burnout to workload. Staff with higher caseloads or direct patient contact had higher scores of burnout (Barad, 1979; Maslach & Jackson, 1981; Maslach & Pines, 1977).

Finally, Maslach and Jackson (1981c) discussed convergent validity in terms of comparing MBI scores with outcomes hypothesised to relate to burnout. Staff with higher levels of burnout are more likely than others to want to leave

their job and have difficulties with friends and family, (Maslach & Jackson, 1979) as well as feel under stress, use substance and express a desire to spend less time working with people (Maslach & Jackson, 1981). Further research has supported the MBI's convergent validity (Coker & Omoluabi, 2009; Demerouti, Bakker, Vardakou, & Kantas, 2003; Kitaoka-Higashiguchi et al., 2004).

3.5.3. Discriminant validity.

In contrast to convergent validity, discriminant validity ensures that unrelated measures are truly not related. If measures are assessing different underlying concepts then they should not be associated. For example, individuals with burnout are expected to have some level of poor job satisfaction. However, levels of burnout and job satisfaction should not be so highly correlated it renders them indistinguishable. If this is the case then researchers cannot conclude whether an individual is suffering from burnout or poor job satisfaction.

Maslach et al. (1986) correlated 91 social service and mental health workers scores on the MBI and the General Job Satisfaction subscale of the Job Diagnostic Survey (JDS; Hackman & Oldham, 1975). Results showed negative

correlations therefore supporting the idea that burnout and job dissatisfaction have different underlying constructs. Research has further distinguished burnout from depression highlighting a difference between the constructs (Cresswell & Eklund, 2006; Leiter & Durup, 1994).

Enzmann, Schaufeli, and Girault (1995) found that EE can relate closely to other constructs such as physical symptoms, irritability and mental distress. Therefore, the researchers concluded that EE was underpinned by a general psychological stress reaction, whereas DP and PA were found to have good discriminant validity. The researchers noted that burnout should be regarded as a multidimensional construct rather than simplified to feelings of exhaustion. Maslach et al. (1986) posited that EE could be similar to depression and psychological stress but differences should be noted as EE and burnout focus on the impact an individual's work has, whereas measures of depression focus on deficits in global functioning.

3.5.4. Predictive validity.

Another form of validity is predictive validity. This refers to a measure predicting future behaviour. High scores in predictive validity suggest there are good correlations

between the measure and observed future behaviour. The MBI was not created to predict future behaviours; however, levels of burnout have been correlated with behaviour. Using the MBI, burnout has been shown to impact patient quality of care. Staff members exhibiting burnout tend to disclose higher frequencies of poor patient care (Poghosyan, Clarke, Finlayson, & Aiken, 2010; Williams et al., 2007). Burnout has also been shown to correlate with patient satisfaction where higher burnout among staff on the ward leads to higher reports of patient dissatisfaction (Argentero et al., 2008). Hence, staff with burnout are likely to behave in ways where the patients' needs are not met and they do not satisfy their job role. Therefore, the MBI can be used to predict staff ability to perform their jobs to satisfactory level ensuring patients are cared for appropriately. It is important to highlight here the fact that it is not possible to draw causal relationships from these results. Rather, they highlight a possibility of correlation.

3.5.5. Face validity.

Face validity is whether a measure assesses what it purports to measure. High face validity scores suggest that the measure is clear in its aims. However, this can lead to socially desirable responses as participants become aware

of the nature of the measure. The MBI was originally a 47-item scale but after extensive research, Maslach and Jackson (1981) reduced the measure to its current 22 items. Conducting this research enables the measure to be clear and succinct in its attempts to evaluate burnout. Hence, the researchers have worked on improving the MBI leading it to having good face validity.

3.5.6. Concurrent validity.

Concurrent validity refers to how much a measure corresponds to another measure within the same construct. The MBI is often used as a point of reference for other burnout measures. Significant and positive concurrent validity has been found between the MBI and Symptoms Distress Checklist (SCL-90; Coker & Omoluabi, 2009), Copenhagen Inventory (Campos & Maroco, 2012), Psychophysiological Symptoms Checklist (PSC; Coker & Omoluabi, 2009) and Oldenburg Burnout Inventory (OLBI; Demerouti et al., 2003; Halbesleben & Demerouti, 2005). It is important to note that when researchers use the MBI as a 'gold-standard' burnout measure, they must be aware of its limitations, as discussed earlier in this report, before reaching valid conclusions about the measure under consideration.

3.6. Conclusion

The aim of this critique was to assess the psychometric properties of the MBI in order to better understand its utility within organisational settings. By completing this review, it confirmed the use of the MBI in the following quantitative research and for including studies which used the measure in the systematic review. The main factors focussed on were reliability and validity with the properties of other similar psychometric measures being explored and discussed. Psychometric measures have strengths in that they are quick to administer to a large sample size. However, they can be influenced by several biases such as social desirability. Maslach and Leiter (1997) proposed optimal testing environments to minimise the negative impact of self-report questionnaires.

In terms of reliability, there is evidence of internal reliability. Maslach et al. (1986) provided evidence of acceptable and excellent Cronbach's alpha scores for all three components. Internal reliability has been explored using meta-analyses, cross-cultural and large scale studies. This research supports Maslach et al. (1986) finding that the measure has good internal reliability. There were a few

results which bought into question the reliability by providing questionable and poor Cronbach's alpha scores. However, the majority of research showed acceptable and excellent internal reliability.

With regard to test-retest reliability, it can be hard to establish this with the MBI as external stressors that can fluctuate over time can influence burnout. This would lead the MBI to have poor test-retest reliability. However, results in this area of research have been promising. Some results indicated low scores but all had significant p values beyond .001 level. Therefore, despite the issue of the nature of burnout, the MBI has good test-retest reliability.

Construct validity is an umbrella term for concurrent and discriminant validity focussing on how a measure relates to other measures. Convergent validity was shown to be good for the MBI through behavioural ratings by colleagues and family members as well as job characteristics which correlate with burnout. Additionally, research has shown good support for discriminant validity for the MBI. There were satisfactory distinctions between burnout and job dissatisfaction, and depression. Taken together, good

convergent and discrimination validity supports the MBI to having good construct validity.

Despite the MBI not being developed to predict future behaviour, it has been shown to have good predictive validity. The MBI has shown associations between burnout and behaviours related to poor patient care. These findings can allow for the MBI to be used as a way of assessing staff ability to perform their job.

At times strong face validity may appear to be disadvantageous when investigating a social construct as it could enable participants to understand the nature of the measure and produce socially desirable answers. However, this is still an important area of validity as it ensures the measure is clear in its aims and desires and not lead to unnecessary probing to participants. The MBI was designed after much extensive research and evidence allowing for a succinct and clear measure. Maslach et al. (1986) provided optimal testing conditions to overcome the issue of good face validity.

The final area of validity in this critique was concurrent validity. The MBI was shown to correspond to other

measures assessing the construct of burnout. For example, concurrent validity has been found between the MBI and SCL-90, Copenhagen Inventory, PSC and OLBI.

Overall, the MBI has been shown to be effective valid and reliable measure of burnout. The majority of research has supported the MBI to having internal and test-retest reliability as well as being satisfactory across a range of types of validity. Additionally, there is considerable evidence to support the three-factor structure of the MBI. The research discussed in this critique has used a variety of research styles including meta-analyses, cross-cultural and large scale studies. Any limitations highlighted have been surpassed by the large volume of studies supporting the findings (Maslach et al., 1986). In conclusion, the MBI is an adequately robust tool for measuring burnout.

4. CHAPTER FOUR: QUANTITATIVE STUDY

The Impact of Inpatient Aggression on Staff within Secure Forensic Healthcare

Abstract:

Introduction: Previous research has shown that a significant number of staff members have experienced some form of inpatient aggression. This experience can impact the victim with physical injuries and non-somatic symptoms. Findings from general and psychiatric healthcare found staff who experienced inpatient aggression has elevated levels of burnout, fear and job dissatisfaction. However, there has been limited research in terms of forensic secure healthcare.

Methods: 99 participants across two private secure forensic hospitals participated in this cross-sectional research. Participants were asked about their experience of inpatient aggression as well as their levels of burnout, anxiety and job satisfaction.

Results: 67.7% of staff members have experienced physical inpatient aggression whilst 84.8% have experienced verbal aggression. Participants who experienced physical inpatient aggression were significantly

more likely to show signs of depersonalisation and job dissatisfaction than those who did not.

Conclusion: Contrary to previous findings, staff members in private forensic healthcare, reported less negative effects from inpatient aggression than staff within other healthcare settings. Findings are discussed in terms of different settings and staff mix.

Keywords: Inpatient Aggression, Forensic Healthcare, Private Healthcare, Burnout, Anxiety, Job Satisfaction

4.1. Introduction

4.1.1. Prevalence of inpatient aggression.

Aggression towards staff in healthcare settings is prevalent. From 215 mental health wards across England and Wales, 41% of nurses reported upsetting incidents with 50% feeling threatened and unsafe and 22% had been physically assaulted in the year prior to the survey ("Healthcare Commission National Audit of Violence 2006-7", 2007). Broderick et al. (2015) explored the violence in a psychiatric system in America between 2011 and 2013, and found 31.4% of patients had at least one act of physical violence towards staff members or patients. Also in America, Bader and Evans (2015) stated that five psychiatric hospitals across California housed an average of 5600 patients in 2013 and there were 2596 assaults towards staff. Iozzino et al. (2015) conducted a systematic review to highlight the prevalence of inpatient aggression acute psychiatric wards. 35 studies from 1995 to 2014 from various countries such as the United Kingdom, Norway, and Australia showed 17% of the combined 23,972 inpatients had at least one incident of physical violence. Nijman et al. (2005) assessed the prevalence across a variety of healthcare settings and included forensic units. The researchers found 16% of staff

experienced severe physical aggression with 76% experiencing mild physical aggression. However, it is not clear of the prevalence in forensic only units as the data was combined with other psychiatric centres. Within a forensic psychiatric hospital in the Netherlands, 27.2% of 506 patients were found to have an incident of physical aggression between 2008 and 2014 (Verstegen et al., 2016). Similar results were found in a medium secure unit in Belgium where 21.7% of inpatients were aggressive between 2001 and 2010 with 13.7% displaying verbal aggression and 13% demonstrating physical aggression (Jeandarme et al., 2016).

As discussed in the introduction of the thesis, aggression can follow a chronology with the antecedents, immediate consequences of an incident, and then the long-term issues that need support after experiencing aggression. The qualitative work in this thesis has discussed how inpatient aggression may occur and it is important to continue on the chronology of aggression by exploring the consequences victims may experience from an incident.

4.1.2. Impact of inpatient aggression.

The JD-R Model informed this chapter by highlighting that patient aggression is a job demand. This is because the model defined demands as any aspect of work which required physical, psychological, social or organisational effort. Aggression has led to physical injuries reported by nurses which have varied in occurrence with some assaults leading to a lasting physical scar (Hahn et al., 2008). For example, 44% of nurses reported minor injuries within NHS psychiatric hospitals whilst only 3% of staff within a state psychiatric hospital experienced an injury (Carmel & Hunter, 1993).

Whilst it is important to understand physical injuries, patient aggression can have non-somatic effects which influence the victims, their families and the organisation (May & Grubbs, 2002; Winstanley & Whittington, 2004) which can take several months to recover from (Baxter et al., 1992). Experiencing patient aggression can lead to resignation as well as thoughts of resigning (Dean et al., 2010). Furthermore, 67% of staff who had left their job after being assaulted said it was due to violence and being afraid of patients (Fernandes et al., 1999). In a systematic review of forensic and Psychiatric Intensive Care Units (PICUs), Bowers et al. (2011) highlighted the

consequences staff members experience after inpatient aggression. 12 studies reported 16 types of psychological outcomes which included irritability, fear, job dissatisfaction, anxiety, and resentment.

4.1.2.1. Burnout.

As outlined in the overall introduction to the thesis, one effect of inpatient aggression is burnout which is physical and emotional exhaustion caused by prolonged exposure to stress and being too committed to one's work impacting cognitions, judgements, and emotions. Maslach, Jackson, and Leiter (1986) put forward a three-dimensional construct for burnout: EE, DP, and reduced PA. According to this model, EE relates to the feelings of physical and emotional fatigue; DP relates to insensitive behaviours a worker may show to a client; and reduced PA entails having negative thoughts and feelings about self.

Moderate levels of burnout were found in 135 healthcare professionals in a medium secure forensic unit in the United Kingdom (Elliot & Daley, 2012). Moderate levels of burnout for forensic mental health nurses were also found by Brown, Igoumenou, Mortlock, Gupta, and Das (2017). A systematic review explored the prevalence and determents

of burnout in mental health professionals who work in inpatient units or in the community (O'Connor, Neff, & Pitman, 2018). From 9409 pooled participants, 40% had high levels of EE, 22% had DP, and 19% had low PA. Furthermore, the review stated that burnout was determined by job demands of the JD-R Model such as workload, clinical supervision, and role clarity. de Looff, Didden, Embregts, and Nijman (2018) found 110 forensic mental health nurses experienced burnout which was predicted by job stress. Chabinska (2017) found some job demands in terms of understanding the job role and feeling that your role is predictable as mediating EE within forensic healthcare professionals. de Looff Nijman, Didden, and Embregts (2018) highlighted how physical aggression can increase levels of burnout in a Dutch psychiatric hospital; however, these levels did not meet clinical cut-off. These findings highlight the prevalence of burnout in mental health professionals and also supported the JD-R Model discussed in the overall introduction for burnout being mediated by high job demands and low resources.

4.1.2.2. Anxiety.

Previous research examined the levels of anxiety among staff after incidents of aggression in the workplace. In a

systematic review which included nurses' experiences in psychiatric units (Lanctôt & Guay, 2014), anxiety was highlighted as a consequence to aggression. A systematic review exploring non-somatic symptoms of patient aggression found that anxiety was the most commonly reported bio-physiological effect (Needham et al., 2005). Anxiety can lead to high levels of distress (Morgan et al., 2005) and worry about being unsafe and assaulted in the future (Poster, 1996; Rose, 1997). However, Winstanley and Whittington (2002) found no significant differences in levels of anxiety between staff who have and have not experienced patient aggression. Research has highlighted that high levels of anxiety can impact on everyday life as those individuals have a negative outlook on life. Therefore, it is important to look into whether staff members show signs of anxiety after aggressive incidents.

As previous research has shown, patient aggression has an impact on staff levels of burnout and anxiety. Burnout and anxiety have been shown to be significantly interrelated (Mousavi et al., 2017; Zhou et al., 2016) where burnout can predict variance in nurse's levels of anxiety (Mousavi et al., 2017). Burnout and anxiety may overlap because high levels of EE may raise individuals' level of anxiety in

stressful situations and, in turn, may weaken their ability to cope with anxiety (Winnubst, 1993).

4.1.2.3. Job satisfaction.

Another impact of patient aggression is job satisfaction which can lead to staff intentions to resign (Alsaraireh, Quinn Griffin, Ziehm, & Fitzpatrick, 2014). Job satisfaction has been found to decrease after a patient has been aggressive (Purpora & Blegen, 2015), potentially due to perception and fear of violence (Roche, Diers, Duffield, & Catling-Paull, 2010). DP and EE were found to be significantly related to job dissatisfaction (Khera, 2017; Rosale, Labrague, & Rosales, 2013), whilst PA was significantly correlated to job satisfaction (Ozyurt, Hayran, & Sur, 2006). Burnout and job dissatisfaction have also been found to have the same predictors such as a low sense of control over their own work (Freeborn, 2001), perceived job load (Nirel, Shirom, & Ismail, 2004), and annual leave entitlement (Ozyurt et al., 2006). Anxiety and job satisfaction have been found to be negatively correlated whereby as anxiety increases, job satisfaction decreases (Newbury-Birch & Kamali, 2001; Zalewska, 2011). Within staff from a forensic setting, job demands of understanding your job role, having control over your job

and the predictability of your role predicted job satisfaction (Chabinska, 2017). This highlighted how the JD-R Model can aid in understanding how job satisfaction occurs.

In summary, experiencing patient aggression can leave a lasting effect on the victims. Whilst physical injuries are acknowledged, non-somatic effects are less clear to an observer but can have several consequences such as resignation from job roles. These non-somatic effects include burnout where staff victims of inpatient aggression are likely to experience EE and DP, especially if they are victim to several incidents. Anxiety has been commonly reported by staff and has been linked to increased fear of patients and being exposed to further assaults. Similarly, job satisfaction has been linked to fear in staff and decreases after being a victim to inpatient aggression.

4.1.3. Patient quality of care.

It is important to be aware of how the impact of patient aggression may influence the quality of patient care, as indexed by patient satisfaction and staff scores on psychometric measures. In relation to burnout, Argentero, Dell'Olivo, and Santa Ferretti (2008) showed a positive correlation between PA and patient satisfaction and a

negative correlation between EE and patient satisfaction, similarly, staff who exhibit burnout report higher frequencies of poor patient care (Toral-Villanueva et al., 2008; Williams et al., 2007) whilst patients have also reported a low satisfaction when staff have high levels of burnout (Garman, Corrigan, & Morris, 2002; Vahey et al., 2004).

Patient satisfaction has been found to be lower in units were nurses are dissatisfied with their jobs (Chang et al., 2009; McHugh et al., 2011). Therefore, high levels of burnout and low levels of job satisfaction can impact on patient satisfaction and quality of care.

4.1.4. Study Rationale.

As outlined staff within mental health settings and forensic units experience patient aggression. Research has been conducted internationally and within the NHS in the United Kingdom with different levels of security being explored. Furthermore, burnout levels were found to be higher in private for-profit acute mental health settings than publicly run hospital in Sweden (Hansen et al., 2009). The researchers also used the JD-R Model and found that job demands were not different across the hospitals which

would not explain the result. Furthermore, as Keown et al. (2008) found that patients were three times more likely to be admitted to psychiatric private hospitals in 2006 compared to 1996, it is important to continue to explore inpatient aggression with a focus on private healthcare. Verbal aggression is a common form of inpatient aggression; however, this can be hard to quantify due to the extent of it and the definition of verbal aggression can be confusing or misinterpreted by people. Therefore, this study will continue to focus on physical aggression and build on previous research by exploring the impact inpatient aggression within private forensic healthcare has on burnout, job satisfaction and anxiety.

The study will explore whether anxiety and job satisfaction can predict levels of burnout. This will be conducted because the JD-R Model highlighted how high job demands and low resources led to burnout. Resources are also related to a motivational process where when they are low, they reduced an employee's motivation to work for the organisation where they are more likely to resign or be absent. Therefore, burnout can be related to a low motivation to work. Previous research also highlighted how anxiety and job satisfaction effected a person's motivation

due to increased likelihood to resign and worries about being safe in their role. Therefore, burnout, anxiety, and job satisfaction are related to low resources and the motivational process of the JD-R Model. Due to this link, it may be that anxiety and job satisfaction can be identified in staff members and used to signify further difficulties in their well-being and highlight potential consequences organisations should be aware of.

4.1.5. Aims and hypotheses.

The overall aim of this study is to examine the impact of physical assaults by patients detained in secure care on staff burnout, anxiety and job satisfaction.

The specific objectives of the study are to examine:

(i) the difference between staff who have been physically assaulted to those who have not been physically assaulted in terms of burnout, anxiety and job satisfaction.

(ii) whether there is an association between the assaulted staff members levels of burnout, anxiety and job satisfactions and the number of physical assaults they've experienced.

(iii) whether an individual's score of anxiety and job satisfaction can predict their level of burnout.

Individual hypotheses were as follows:

1) Staff who have experienced physical aggression by patients will exhibit more signs of the three subscales to burnout than staff who have not experienced physical assault by a patient.
2) Staff who have experienced physical aggression by patients will exhibit more signs of state and trait anxiety than staff who have not experienced physical assault by a patient.
3) Staff who have experienced physical aggression by patients will exhibit more signs of job dissatisfaction than staff who have not experienced physical assault by a patient.
4) There will be significant and positive correlations between frequency of assaults and levels of anxiety, burnout and job satisfaction among staff.
5) Higher scores on anxiety and job dissatisfaction will predict higher scores on the burnout subscales.

4.2. Methodology

4.2.1. Ethical consideration.

Ethical approval for this study was granted by the University of Nottingham Faculty of Medicine and Health Sciences Research Ethics Committee in September 2016 (reference: M21072016).

4.2.2. Design.

An anonymous, cross-sectional, quantitative self-report survey design was utilised. This was utilised as it allowed for maximum data collected in the time available to the researcher.

4.2.3. Setting and participants.

Participants were recruited from two private secure hospitals in London and Nottingham. The London hospital consisted of two medium secure and one low secure ward, and a locked rehabilitation house with a total of 64 beds for male clients healthcare setting with patients detained under the MHA (1983, as amended in 2007). The Nottingham hospital had three medium secure wards (two housed male patients whilst one was for females) and had 64 beds. Approval was sort to conduct the study on these sites by managers. 187 surveys distributed with 122 being returned. However, 23 (18%) did not finish the questionnaire, leaving a total sample size of 99 (response

rate of 53%). A total of 60 questionnaires were completed in London (61%) with 39 being from the Nottingham hospital site (39%).

There was a relatively even split between male and female participants (44% and 56% respectively) with 36% being Black African and 43% were White British. The mean age of participants was 37.28 years (standard deviation=11.45, range=21-67 years) with the majority being equal or older than 30 (55%) (17 participants (16%) did not disclose their age). In terms of job titles, most participants were healthcare workers (67%), working in medium secure wards (60%) with male patients (74%). Their length of experience was converted into months for ease of analysis. Job experience ranged from 1-240 months with a mean of 62.6 months.

The demographics for both hospital sites are described below (table 3).

Table 3: Demographic data of study sample (n=99)

	Demographics from overall sample (*n*=99)	Demographics from London Hospital (*n*=60)	Demographics from Nottingham Hospital (*n*=39)
Variable	N (%)	N (%)	N (%)
Age			
<30	29 (29%)	17 (28%)	11 (28%)
>30	54 (55%)	32 (53%)	23 (59%)
Gender			
Male	44 (43%)	25 (42%)	20 (51%)
Female	55 (56%)	35 (58%)	19 (49%)
Ethnicity			
Black African	36 (36%)	28 (47%)	8 (21%)
Black Caribbean	4 (4%)	3 (5%)	1 (3%)
White British	43 (43%)	11 (18%)	25 (64%)
White Other	3 (3%)	2 (3%)	1 (3%)
Asian	6 (7%)	5 (8%)	1 (3%)
Mixed Ethnicity	3 (3%)	1 (2%)	1 (3%)
Prefer Not to say	4 (4%)	10 (17%)	2 (5%)
Job Role			
HCA	66 (67%)	40 (67%)	29 (74%)
RMN	19 (19%)	8 (13%)	10 (26%)
Clinical Staff	9 (9%)	4 (7%)	0
Did not specify	5 (5%)	8 (21%)	0
Ward Security Level			
Locked			
Rehabilitation	10 (9%)	5 (8%)	5 (13%)
Low	26 (9%)	19 (32%)	9 (23%)
Medium	60 (61%)	34 (57%)	24 (62%)
Patient Gender			
Male	74 (75%)	60 (100%)	21 (54%)
Female	16 (16%)	0	10 (26%)
Both	8 (8%)	0	8 (21%)
Experience of Aggression			
Physical	67 (68%)	37 (62%)	30 (81%)
Verbal	84 (85%)	47 (78%)	36 (92%)
Neither	12 (12%)	8 (13%)	3 (8%)

4.2.4. Procedure.

Once approval was agreed from hospital managers, staffing lists and details of staff meetings were made available to

the researchers. Participants were recruited if they worked within the private forensic sector in the two hospitals.

In the London based hospital, participants were invited to participate through email notices and ward meetings. Questionnaires could be completed electronically on Bristol Online Surveys or on paper and returned straight to the researcher. Email invites were sent out twice over the period of data collection between October 2016 and January 2018 which contained the link to the online study. The researcher attended ward based meetings such as Reflective Practice, and hospital wide training sessions in order to explain the research topic and specify how staff can participate if they wished to. Paper based questionnaires were made available via researchers and could be handed into the psychology department. The researcher was invited to attend a second hospital in Nottingham for one day and attended both the beginning of Reflective Practice and the Management of Violence and Aggression (MVA) training. Again, the researcher explained the research topic and paper questionnaires were made available in the afternoon if any staff members wished to complete it.

Brief information was provided in the email invite and when explaining the study in person. Further information was provided through a 'Participant Information Sheet' (Appendix 2). Before proceeding with the study, participants had to confirm they had read and understood the information page, had any questions answered and consented to participation (Appendix 3). Finally, a debrief sheet was provided to all participants once the questionnaire was completed (Appendix 4).

Experience of physical patient aggression was assessed through four questions: whether the participant had experienced any form of physical aggression, how often in the last 12 months they had experienced it, to outline the most severe situation, and what emotion they experienced and how long the emotion lasted for (Appendix 5).

4.2.5. Measures.

4.2.5.1. Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981b).

The MBI is a 22 item self-report tool which was originally developed to assess burnout levels among professionals working within human services. The items are scored on a 6 point Likert scale ranging from 'never' to 'everyday'. High

levels of burnout are present when there are high scores on the EE and DP subscales and low scores on the PA subscale. Average levels of burnout are present when moderate levels of burnout are present across each subscale. Finally, low levels of burnout are present when there are low scores on the EE and DP subscales and high scores on the PA subscale.

As stated in the critique work of this thesis, the MBI has been shown to have good internal reliability. Internal reliability refers to the consistency within the measure where items measure the same factors. Numerous studies have found reliability coefficients in the region of 0.81 and 0.92 for EE, 0.57 and 0.82 for DP, and 0.50 and 0.86 for PA (Aluja, Blanch, & García, 2005; Kim & Ji, 2009; Maslach & Jackson, 1981b; Richardsen & Martinussen, 2005). Test-retest reliability refers to the consistency of the measure over time. This has been harder to establish with the MBI due to the nature of burnout which can fluctuate over the course of someone's life. However, Corrigan et al. (1994) found high levels of test-retest reliability after an 8-month interval. The MBI is included as Appendix 6.

4.2.5.2. State Trait Anxiety (STAI; Spielberger et al., 1983).

The STAI measures state and trait anxiety and has been used in care giving settings (Elliott, Shewchuk, & Richards, 2001; Winstanley & Whittington, 2002). State anxiety relates to the feelings of fear, nervousness and discomfort. Whilst trait anxiety relates to an individual's disposition to experience stress, worry and discomfort. The tool has 40 items (20 assessing state anxiety and 20 items assessing trait anxiety). The items will be scored on a 4 point likert scale ranging from 'not at all' to 'very much so'.

The STAI has also been shown to have good internal reliability. Spielberger et al. (1983) showed that the STAI has reliability coefficients which ranged from .86 to .95. The same study also looked into test-retest reliability and found these coefficients have ranged from .65 to .75 over a 2-month interval. The same critique of the MBI in terms of the test-retest reliability could apply to the STAI. Anxiety can also fluctuate over time making it hard this hard to measure. This measure is presented in Appendix 7.

4.2.5.3. Job Satisfaction Scale (JSS;(Warr, Cook, & Wall, 1979).

This measure asks participants to assess their satisfaction on a seven point Likert scale from "extremely dissatisfied"

(score 1) to 'extremely satisfied" (score 7). Satisfaction was rated on the following items: physical working conditions; freedom to choose your own method of working; your colleagues and fellow workers; recognition you get for your good work; amount of responsibility you are given; your rate of pay; opportunity to use your ability; your hours of work; amount of variety in your job; and taking everything into consideration, how do you feel about your job as a whole?

JSS has been shown to have good internal reliability. Research has shown the reliability co-efficient scores have ranged from .80 to .91 (Abraham & Hansson, 1996; Norman, Collins, Conner, Martin, & Rance, 1995). The JSS is shown in Appendix 8.

4.2.6. Data analysis.

To begin with, continuous variables were screened to check for the assumptions of parametric testing. This involved calculating skewness and kurtosis values for each variable. Plots such as histograms, stem-and-leaf, normal Q-Q, and box plots were created and visually scanned to identify the shape of the variable and identify any outliers. Shapiro-Wilk tests were also calculated to check whether the data

was normally distributed. This found JSS was normally distributed but the STAI-State, STAI-Trait, EE, DP, and PA were non-normally distributed.

Log transformations were carried out to attempt to correct the skew in data but all five subscales remained non-normally distributed. Therefore, non-parametric analysis was carried out for the STAI-State, STAI-Trait, EE, DP, and PA. The DP was skewed with kurtosis towards the lower range of the scale.

4.3. Results

4.3.1. Prevalence.

4.3.1.1. Experience of patient aggression.

Over 67% had experienced physical aggression by a patient during their career whilst over 84% described being verbal abused by a patient. 12.1% reported no experience of physical or verbal aggression. Compared to previous research, the current study shows prevalence of physical aggression to be higher than non-forensic healthcare settings with the level of verbal aggression being in accordance to previous research.

4.3.1.2. Levels of burnout.

In terms of burnout, the mean scores of participants in this study showed they scored, on the whole, in the low category for EE and in the moderate category for both DP and PA. Means and Standard Deviations of current sample (n=99) are shown in table 4 alongside norms for overall data (n=11,067; Maslach & Jackson, 1984) and for staff working within mental health settings (n=730; Maslach & Jackson, 1984). In general, the participants in this sample had lower levels of EE, and better levels of PA for both sets of normative data whilst the current sample had higher levels of DP compared to the mental health norms and similar levels of DP as the overall normative data.

Table 4: *Mean Scores (SD) and categories for levels of burnout for current study and normative data for mental health professionals*

	Current study (n=99)		**Normative Data a)Overall norms (n=11,067) b) Mental Health Norms (n=730)**		**Categories for level of burnout subscale**
	Mean	**Standard Deviation**	**Mean**	**Standard Deviation**	
EE	14.97	8.57	a) 21.0 b) 16.89	a) 10.8 b) 8.90	Low Levels <16 Moderate Levels 17-26 High Levels >27
DP	8.31	7.38	a) 8.7 b) 5.72	a) 5.9 b) 6.62	Low Levels <6 Moderate Levels 7-12 High Levels >13
PA	36.75	8.70	a)34.6 b) 30.87	a) 7.1 b) 6.37	High levels >39 Moderate Levels 32-38 Low Levels <31

Note: PA is interpreted in the opposite direction to EE and DP

4.3.2. Hypothesis one, two and three.

It was hypothesised that staff who have experienced physical aggression by patients will exhibit greater levels of burnout, state anxiety, trait anxiety, and job dissatisfaction than staff who have not experienced physical assault by a patient.

Table 5 highlights further exploration of the prevalence of burnout within this current sample. This highlights that the

prevalence of experiencing high levels of burnout was 12.1% to 29.3% across the subscales.

Table 5: *Frequency and percentage data for categorisation of low, moderate and high levels of burnout*

MBI Subscales	**Low Levels *n* (%)**	**Moderate Levels *n* (%)**	**High Levels *n* (%)**
EE	59 (59.6%)	28 (28.35)	12 (12.1%)
DP	52 (52.5%)	23 (23.2%)	24 (24.2%)
PA	29 (29.3%)	18 (18.2%)	52 (52.5%)

Note: PA is interpreted in the opposite direction to EE and DP

An independent-samples t-test was conducted to compare job satisfaction in staff who have experienced inpatient aggression and staff who have not experienced inpatient aggression (Table 6). There was a significant difference in the scores for experience of inpatient physical aggression (M=4.13, SD=1.12) and no experience (M=4.71, SD=0.79); t (97)=2.62, p=0.01. These results suggest that experience of inpatient aggression does impact job satisfaction. Specifically, job satisfaction decreases when you experience inpatient aggression.

Table 6: *Comparison of staff who have experienced physical inpatient aggression and those who have not experienced physical inpatient aggression on job satisfaction.*

	Experience of Physical Inpatient Aggression (n=67)		**No Experience of Physical Inpatient Aggression (n=30)**		
	Mean	**SD**	**Mean**	**SD**	**t-test**
JSS	4.13	1.11	4.71	.79	**.01****

**p<.01

Mann-Whitney U tests were utilised for the STAI-State, STAI-Trait, EE, DP, and PA (Table 7). There was a significant difference between experience of physical inpatient aggression and DP. From this data, it can be concluded that DP was significantly higher in staff who have experienced physical inpatient aggression than staff who do not have this experience (U=801, p=.042). There was no significant difference between the two groups for either anxiety subscale, EE or PA.

Table 7: *Comparison of staff who have experienced physical inpatient aggression and those who have not experienced physical inpatient aggression on state anxiety and trait anxiety, and MBI.*

Variable	Experience of Physical Inpatient Aggression (n=67) Median (Range)	No Experience of Physical Inpatient Aggression (n=30) Median (Range)	U Value	Z Score	Effect Size (r)
STAI-State	37 (20-69)	33.5 (20-51)	932.50	-1.045	-.10
STAI-Trait	38 (23-67)	40 (20-60)	994.00	-.584	-.05
EE	15 (0-39)	13 (1-27)	875.50	-1.472	-.14
DP	8 (0-40)	4 (0-19)	801.00	-2.032	**-.20***
PA	39 (11-48)	39.5 (20-48)	887.50	-1.382	-.13

*p<.05

4.3.3. Hypothesis four.

It was hypothesised that physically assaulted staff who have more incidents of assault will exhibit more negative consequences than staff with fewer assaults.

A series of correlations were conducted to assess this hypothesis. The number of assaults was assessed as a continuous variable as were all subscales. As JSS was normally distributed, a Pearson product moment correlation was conducted to assess the relationship between job

satisfaction with number of incidents (Table 8). Spearman's rank order correlation was used for the non-normally distributed variables (Table 8).

Table 8: *Correlation coefficient values between number of physically aggressive incidents and the JSS (Pearson's r), and STAI-State, EE, DP, and PA (Spearman's Rho)*

	Number of incidents of Physical Inpatient Aggression (*n*=99) r
JSS	-.011
STAI-State	-.044
STAI- Trait	-.043
EE	.036
DP	.123
PA	-.063

*p<.05

Contrary to expectations, no relationship was found between number of physical inpatient aggressive incidents and scores on any of the variables.

4.3.4. Hypothesis Five.

To test the hypothesis that the three subscales of the MBI would be predicted by higher levels of STAI-State, STAI-trait, and JSS, a regression analysis was undertaken. Firstly, correlations between predictor variables were explored to assess multicollinearity; none of these

correlations reached a level which raised concerns (VIF values below 10 and tolerance statistics above 0.2; Field, 2005).

4.3.4.1. Emotional exhaustion subscale.

The first regressions focussed on EE. The variables which acted as significant predictors of MBI-EE score are provided in Table 8. Trait anxiety accounted for 27% of the variance in MBI-EE score ($F (3, 94)=11.563$, $p<.001$). Higher scores on the MBI-EE were predicted by higher scores of trait anxiety. This is presented in Table 9.

Table 9: *Linear Regression Predicting MBI-EE scores*

Predictor	B	SE B	ß
Step One			
JSS	-.113	.027	**-.391*** **
Step Two			
JSS	-.063	.029	-.**218***
STAI-Trait	.949	.247	**.379*** **
Step Three			
JSS	-.056	.031	-.193
STAI-Trait	.801	.340	**.320***
STAI-State	.225	.352	.093

R^2 =.15, adjusted R^2=.14 (Step One); R^2 =.27, adjusted R^2=.25 (Step Two); R^2=.27, adjusted R^2=.25 (Step Three); *p<.05, **p<.01; ***p<.001

4.3.4.2. Depersonalisation subscale.

The second set of regressions focused on DP subscale of the MBI. The third model tested the hypothesis in terms of job satisfaction, state anxiety, and trait anxiety. In this step, job satisfaction and trait anxiety transpired as the only significant predictors of MBI-DP (Table 10). These two variables accounted for 29% of the variance (F (3, 87) =11.722, p<.001). For participants working in forensic private hospitals, scores on the MBI-DP were predicted by lower scores of job satisfaction and higher scores of trait anxiety.

Table 10: *Linear Regression Predicting MBI-DP scores*

Predictor	B	SE B	ß
Step One			
JSS	-.179	.039	**-.438*** **
Step Two			
JSS	-.122	.040	-.**298** **
STAI-Trait	1.134	.329	**.340** **
Step Three			
JSS	-.119	.043	**-.292** **
STAI-Trait	1.077	.460	**.323***
STAI-State	.084	.472	.026

R^2=.19, adjusted R^2=.18 (Step One); R^2=.29, adjusted R^2=.27 (Step Two); R^2=.29, adjusted R^2=.26 (Step Three); *p<.05, **p<.01; ***p<.001

4.3.4.3. Personal accomplishment subscale.

The variables emerging as significant predictors for scores of PA subscale of the MBI are presented in table 11. Trait

anxiety accounted for 22% of variance in MBI-PA scores (F (3, 95)=8.679, p<.001). It should be noted that scores on MBI-PA are scored in reverse so scores of low PA were predicted by higher scores of trait anxiety.

Table 11: *Linear Regression Predicting MBI-PA scores*

Predictor	B	SE B	ß
Step One			
JSS	.030	.011	**.259****
Step Two			
JSS	.008	.012	.067
STAI-Trait	-.424	.101	**-.425*****
Step Three			
JSS	.005	.013	.039
STAI-Trait	-.357	.140	**-.358***
STAI-State	-.101	.144	-.105

R^2=.07, adjusted R^2=.06 (Step One); R^2=.21, adjusted R^2=.20 (Step Two); R^2=.22, adjusted R^2=.19 (Step Three); *p<.05, **p<.01; ***p<.001

4.4. Discussion

4.4.1. Impact of patient aggression.

An aim of this study was to explore the difference between staff who have been physically assaulted to those who have not been physically assaulted in terms of their burnout, anxiety, and job satisfaction. A second aim was to find out whether number of physical assaults influenced levels of burnout, anxiety, and job satisfaction. A final aim was to

determine whether dimensions of burnout are predicted by anxiety and job dissatisfaction.

It was first hypothesised that physically assaulted participants will have higher scores across the three MBI domains (EE, DP, and PA) than staff who have not been victim to patient aggression. It was found that DP was significantly higher in staff who have experienced physical aggression than those who have not but no significant results were found with EE or PA. Typically, physical aggression has been closely linked to EE whilst DP is related to psychological aggression (Evers et al., 2002). Therefore, this study presents a different case whereby DP is influenced by patient aggression within secure forensic healthcare. The results from this analysis support the JD-R Model's application in forensic healthcare and previous research as it showed how high job demands (inpatient aggression) can have an impact on staff well-being such as with DP (Chabinska, 2017; de Looff et al., 2018; O'Connor et al., 2018).

Furthermore, according to the JD-R Model, staff members who score high on DP are likely to have high demands and low resources. The model hypothesised how staff may

develop cynical attitudes when they do not feel supported by their employers or have the means to complete their job well and safely. Findings from the qualitative strand stated that staff did not feel supported by senior staff through a lack of communication and presence which suggested low resources in that area. Within this current chapter, participants had experience of job demands due to inpatient aggression. Therefore, it may be that the participants had high scores of DP due to the high demands and low resources.

A second hypothesis predicted that staff who have been victim to physical inpatient aggression will experience higher levels of state and trait anxiety than participants with no experience of physical aggression. This hypothesis was not supported as no significant difference was found between the two independent groups. Previous research has shown anxiety to be linked to experiences of negative feelings associated with aggression such as fear and worry (Fernandes et al., 1999; Poster, 1996; Rose, 1997) but no significant findings to physical aggression (Winstanley & Whittington, 2002). Therefore, even though it was hypothesised that anxiety would increase after physical aggression, previous research has not shown the explicit

link between physical aggression and anxiety. Hence this study can provide support that anxiety may be more likely linked to other negative consequential feelings instead of the act itself and it may be that this sample did not experience those feelings.

The third hypothesis stated that job satisfaction would be lower for participants who have experience of physical aggression than participants with no experience. This hypothesis was supported and a significant difference between the two groups was identified supporting previous research (Purpora & Blegen, 2015). The JD-R Model informed that staff members with high DP will have low motivation for their work. Job satisfaction is related to motivation to work as when it is low it can lead to intention to resign (Alsaraireh et al., 2014). As this study had significant results for DP and job dissatisfaction following inpatient aggression, it could be that victims of inpatient aggression in secure forensic units have a low motivation to work as highlighted through the motivational process of the JD-R Model. This could provide insight into the qualitative findings which discussed how participants raised concerns around senior staff and management, and organisational training and recruitment which could suggest a low motivation to the organisation.

In hypothesis four, it was predicted that exposure to more physical assaults will have a negative impact on burnout, anxiety and job satisfaction. This hypothesis was not supported across any of the variables. This finding does not support previous research which has found anxiety to be related to feelings of fear which can be created by patient aggression. It could be further hypothesised that nurses expect patient assault as part of their job (Pich, Hazelton, Sundin, & Kable, 2010) which normalises it, so the more often they are exposed to aggression, the more tolerant they become to it and, therefore, the less negative affects they experience after inpatient aggression.

In hypothesis five, it was hypothesised that scores on the three MBI subscales would be predicted by job satisfaction, trait anxiety, and state anxiety for individuals who work in private forensic secure hospitals. This was conducted as burnout, anxiety, and job satisfaction are related to low resources and the motivational process of the JD-R Model. The model conceptualised that due to this link, anxiety and job satisfaction can be identified in staff members and used to signify further difficulties in their well-being and highlight potential consequences organisations should be

aware of. This hypothesis was only partially supported where the three variables did not combine together to predict the three MBI subscales. However, there was some support for previous research. The current study highlighted the link between anxiety and burnout (Richardsen, Burke, & Leiter, 1992; Turnipseed, 1998) and provided further evidence that it is the trait anxiety that can predict scores on each of the three subscales. Evidence was also provided to highlight the link between job satisfaction and DP where job satisfaction negatively predicts DP (Piko, 2006). This result suggested that if trait anxiety was identified in staff members then those people may score high across the three burnout subscales. If job dissatisfaction is shown within staff members then the result could highlight DP. This was further supported as both DP and job satisfaction were significant in hypothesis one and three, suggesting that the two are related and can be used to predict one another.

Overall, whilst some findings in this study support previous research, there were many hypotheses that were rejected. The majority of previous research has explored the impact of patient aggression across several nursing domains such as emergency departments, nursing homes or intellectual

disabilities with less research in mental health settings and forensic settings. It may be that perceptions of physical aggression for staff working in different settings differ so forensic staff may perceive aggression as expected due to the client group and therefore, have less negative feelings after an assault as they perceive it as expected. Therefore, the differences in attitudes could lead to differing levels of resilience. Wade (2017) found staff that work in private hospitals perceived patient aggression as destructive significantly more than their counterparts working in the NHS. Therefore, as there is significant difference between the staff, there could be variations in their level of resilience leading to potentially different non-somatic symptoms. Hence exploration into the impact of inpatient aggression in private healthcare needs to continue to be explored.

4.4.2. Limitations.

One limitation to this study was the low response rate (53%) as it is difficult to generalise the findings to the wider population when demographic and participant information is missing. It might have been that staff were unable to complete the research due to work commitments. The majority of participants were recruited

during shifts and, understandably, it can be difficult to find time to complete questionnaires. In terms of participants, staff members who had left the organisation due to assaults were not possible to be contacted and that could have been an interesting sub-group to assess to gain insight around their feelings and explore what led to resignations.

Another limitation was the cross-sectional design which captures information at a single point in time. The questionnaire asked for their experience of patient aggression in the previous 12 months and it may have been the case that staff experienced an assault 12 months ago and the feelings of anxiety, burnout, and job dissatisfaction may not have been present at time of completing the study. Future research could conduct a longitudinal study where information is collected at several points in time and could assess fluctuations in emotions to compare with more recent assaultive experiences. Another suggestion could be to explore staff emotions after an assault but this proved to have ethical issues as staff may not have wanted to discuss their experience shortly after an assault.

4.4.3. Implications.

From the results, there are several clinical implications. Firstly, this study continues to raise awareness of the occurrence of patient aggression in healthcare settings. Despite protocols being in place to manage inpatient aggression, it is clear violence continues to be an issue and this study supports the need for further assistance in managing aggressive patients.

The main implication from this research is to advance the care staff who have been victim to physical aggression require. It is noted that experiencing physical inpatient aggression can decrease job satisfaction and increase DP which can impact patient quality of care (McHugh et al., 2011; Toral-Villanueva et al., 2008). It is important to be aware of these findings as job dissatisfaction can lead to poor retention of staff which would impact the organisation and the patients they care for. DP is defined as developing a cynical attitude towards others so this can have an impact on how staff care and deal with the patients under their care. Similarly, it is important for organisations to provide more developed and in-depth support for their employees who have experienced several incidents of inpatient aggression. Without this pastoral care, staff

members may struggle to complete their duties due to anxiety and patient quality of care can decrease when staff are anxious.

4.4.4. Further research.

Previous research has been limited in private forensic services. It may be that more research on the impact of aggression needs to be conducted to gain a better understanding of how staff in forensic settings experience and feel after aggressive episodes. The difference between the results in this current study when compared to previous findings may be due to the setting itself where private forensic staff are more resilient to inpatient aggression. Furthermore, it is important to understand whether opposing findings were due to the forensic setting or due to private healthcare organisations, therefore, it would be beneficial to continue conducting research in private and NHS forensic hospitals to gain an understanding of how the two settings may differ despite both having forensic patients.

Future research should explore further the perceptions and expectations of inpatient aggression within private and NHS staff. It is important to assess whether staff working in

different organisations have differing opinions and, if there are differences, understanding whether this is due to the cultures of these organisations. How staff perceive inpatient aggression or their expectation around this can affect the non-somatic symptoms their experience after being victim to this aggression. From this research, implications can be given to organisations to better prepare and support staff to improve the culture to reduce the potential of negative consequences which impact on well-being and the organisation working cohesively.

5. CHAPTER FIVE: SYSTEMATIC REVIEW

The Role of Coping Strategies in Reducing Staff Burnout and Stress after Patient Aggression in Psychiatric Settings: A Systematic Review

Abstract:

Introduction: Coping strategies need to be utilised to overcome the adverse effects inpatient aggression can have on staff members. Coping strategies can be centred on emotional or problem focussed skills whilst being either person or organisational centred approach.

Method: Systematic searches were completed using six online databases. Initially 1,462 references were identified, of which 1,318 were rejected based on title and a further 90 were duplicates and removed. At the next stage of screening, 54 articles were sourced and assessed using a strict inclusion and exclusion criteria, whereby, 47 were rejected leading 7 articles to be further assessed using a pre-defined quality assessment tool.

Results: A variety of coping strategies are available to staff members in terms of personal strategies or organisational strategies such as supervision, and training. Organisational support can be successful in reducing the adverse effects of inpatient aggression. However, in practice there are low

resources to support staff and staff have a negative perception of their organisation’s support.

Conclusions: Organisations need to gain insight into coping after inpatient aggression and how staff perceive organisational support. More research must be conducted in understanding the role coping has on staff members and effective strategies in reducing adverse effects.

Keywords: Inpatient Aggression, Systematic Review, Coping Strategies, Organisational Support.

5.1. Introduction

5.1.1. Impact of workplace aggression.

Verbal and physical aggression is prominent in acute psychiatric units (Bader & Evans, 2015; Broderick et al., 2015) and forensic units (Jeandarme et al., 2016; Verstegen et al., 2016). As shown in the quantitative work of this thesis, only 12.1% of staff had not experienced either form of aggression whilst 64% had experienced physical aggression with 84% being victim to verbal aggression. The 2007 Annual National Audit of Violence conducted by the Royal College of Psychiatrists contained information for 215 mental health wards across England and Wales. The report stated that 41% of nurses reported upsetting incidents with 50% feeling threatened and unsafe.

It is important to consider workplace aggression as it has been shown to have a variety of adverse effects on staff. The non-somatic symptoms were outlined in the introduction to the quantitative work, but to summarise, experiencing physical and psychological aggression can lead to an increase in EE and DP (Chabinska, 2017; Elliot and Daley, 2012; O'Connor et al., 2018), anxiety (Lanctôt & Guay, 2014), and job dissatisfaction (Alsaraireh et al.,

2014). The quantitative findings in this work showed that victims of physical inpatient aggression scored significantly higher for DP than those who had not experienced this aggression. These effects, specifically burnout, tend to impact on patient satisfaction (Argentero et al., 2008; Loerbroks, Glaser, Vu-Eickmann, & Angerer, 2017; Lu, Dresden, McCloskey, Branzetti, & Gisondi, 2015; Nantsupawat, Nantsupawat, Kunaviktikul, Turale, & Poghosyan, 2016).

Burnout has also been associated with impaired emotional and physical health among staff. Studies considering the association with emotional wellbeing have found that staff who experience burnout are more likely to have a reduced sense of overall well-being, resulting in a decrease of mental health and happiness. This included a likely increase in depression, anxiety, job dissatisfaction, sleep disturbances, maladaptive coping strategies and alcohol consumption (Ahola et al., 2005; Khera, 2017; Peterson et al., 2008; Rosales & Labrague, 2013; Stalker & Harvey, 2002). Issues of physical health include sleeping problems, flu-like symptoms, neck and back pain and gastroenteritis (Acker, 2010; Peterson et al., 2008).

5.1.2. Alleviating the impact of burnout.

Coping is defined as the "cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Lazarus and Folkman (1984) described two types of coping; emotion-focused coping which alleviates emotional distress, and problem-focused coping which aims to manage or alter the problem causing the distress.

Previous research has considered effective ways of reducing burnout through coping strategies. There are two separate approaches in reducing burnout; person-centred approach, changing the individual and the skills the individual uses themselves to cope and organisational approach, changing the work environment and having work orientated approaches to managing stressful situations. van den Bossche and Houtman (2003) carried out a literature review on the management of stress in the workplace. Most studies included used the person-centred approach. It was concluded that the organisational approach can be difficult because "management itself often has the opinion that work stress problems are caused by individuals, particularly their incapacity to cope with the

work demands imposed upon them" (Van den Bossche & Houtman, 2003, p. 17). However, the researchers went on to state that it is better to prevent an issue arising than curing the victims of that situation.

In regards to the person-centred approach, previous research has shown that coping skills programmes can reduce burnout and improve physiological responses (Awa, Plaumann, & Walter, 2010; Halbesleben & Buckley, 2004). This approach assumes it is easier to change a person than an organisation and, ultimately, personal issues lead to adverse effects from burnout. 'Personal issues' within this approach is in regards to an individual's ability to cope. Advocates of this approach feel that individuals need to obtain adaptive coping skills to enable successful handling of stressful situations. Individuals need to be encouraged to move away from maladaptive coping skills which increase the stress-levels of the individual. Examples of which include, substance use, aggression, social withdrawal and stimulation seeking behaviour (gambling, risky sex, over shopping).

Coping styles have been linked to behavioural flexibility. Behavioural flexibility relates to the ability an individual has

to respond to the environment and adjust their behaviour accordingly (Coppens, de Boer, & Koolhaas, 2010). Coppens et al. (2010) outlined how proactive coping is linked to rigid behaviour and engrained knowledge of the environment, whilst, on the other hand, reactive coping styles relies on flexibility and responding to the environmental cues. Proactive coping is related to forward-thinking and focussing on quality of life management which can lead to a promotion in well-being (Greenglass, 2002). Furthermore, proactive coping can be used to prevent stressors as the skill allows the individual to learn about the environment to reduce the occurrence of unexpected events (Ouwehand, de Ridder, & Bensing, 2007). Overall, proactive coping relies on the individual to know their environment and be aware of strategies in place to support them in preventing or coping with stressors. For this to be successful in inpatient aggression, it could be argued that staff members must be aware of the ward environments and potential risks involved as well as being aware of the coping strategies and support on offer, either within their own skills or the organisation. Organisations can increase proactive coping through education of environments and what staff can utilise, and through implementing coping skills programmes.

Coping skills programmes aim to improve coping through education, support and practice. These include improving social support, communication skills and social skills as well as muscle relaxation, retreat relaxation and mindfulness techniques. These techniques were found to be successful in alleviating negative effects of burnout, specifically in reducing EE and DP (Freedy & Hobfoll, 1994; Salyers et al., 2011; Van Dierendonck, Schaufeli, & Buunk, 2001). Ewers, Bradshaw, McGovern, and Ewers (2002) conducted six months Psychosocial Intervention Training (PSI) with 20 nurses from a medium secure psychiatric hospital in the United Kingdom. PSI training teaches staff to be more empathetic toward their patients' problems and how to intervene effectively. PSI aims to increase staff self-efficacy leading to feeling more satisfied with their work and cope with stress in a productive manner. Results indicated that PSI led to a significant decrease in levels of burnout. This result suggests that teaching staff skills can lead to a reduction in work stress, hence supporting the person-centred approach.

The second strategy in reducing burnout is an organisational approach. This states that organisations

need to be changed to prevent stressful work situations that could lead to staff burnout through understanding effective aspects of the organisation. Burke (1993) states strategies focusing on entire units or organisations are more effective than individual coping because individual-level changes have limited support behind them and through focussing on organisations, they can target a larger population. Taormina and Law (2000) found improved job training, organisational understanding, supportive co-workers, and encouraging future prospects from management were negatively correlated with burnout, and therefore, should be effective aspects organisations need to explore. Other successful interventions have focused on improving interpersonal relationship management (Scarnera, Bosco, Soleti, & Lancioni, 2009).

It is evident that burnout can occur consequent to both physical and psychological inpatient aggression within healthcare settings. Burnout is an adverse consequence which can lead to a variety of issues for an individual's overall well-being. A large body of research has investigated strategies to alleviate burnout. These strategies focus on the individual or the organisation. The general conclusion from the research is that it is easier to

focus on the individuals. However, both do show promising signs in reducing burnout.

5.1.3. Importance of this review.

Human interaction is at the centre of healthcare settings. However, close interactions can lead to issues. The prevalence of physical and psychological aggression by patients cannot be denied, neither can the impact it can have on staff. Following on from the qualitative and quantitative strands of this thesis, a final stage of inpatient aggression is supporting the staff members who have experienced aggression.

The JD-R Model informed the rationale for this study as it highlighted how job demands and resources mediate each other to support employees. By definition of job demands, patient aggression is a physical and psychological demand at work whilst resources are what staff find helpful in managing these demands.

As discussed, inpatient aggression has consequences on the victims (non-somatic symptoms, physiological consequences and mental health problems) and the organisation (impact of patient care and staff retention).

Organisations should also be concerned about the impact victimisation has on patient care.

The need to support staff after patient aggression is essential to the work environment. Organisations need to respond purposefully to the potential negative impact of patient aggression discussed above. Previous research has shown this can be done through either a person-centred approach where staff are easier to adapt than the workplace or through an organisation-centred approach where the aim is for prevention over cure of aggression.

5.1.4. Review objectives.

To explore the use of strategies that aim to alleviate the adverse effects on staff victims of patient aggression in psychiatric settings and their effectiveness where data are available.

5.2. Methodology

5.2.1. Scoping exercise.

Through searching databases such as The Cochrane Library, Campbell Library and the EPPI Centre, a systematic review could not be identified which has looked in identifying different strategies for overcoming the

adverse effects of patient aggression. Throughout the literature review for this paper, many studies have been identified which have researched strategies for alleviating adverse effects as a whole.

5.2.2. Search strategy.

It was important to conduct a systematic literature review to identify all published and unpublished studies that could be included in this systematic review. The selected databases were searched as they include professional and academic literature relating to the field of health services. The following databases were searched for studies relevant to the research question. As there has not been a systematic review conducted before, literature from the earliest point was included.

- **PsycINFO**
- **The Cochrane Central Register of Controlled Trials (*The Cochrane Library*)**
- **MEDLINE (PubMed)**
- **OpenGrey**
- **Google Scholar**
- **Ethos**
- **CINAHL**

Reference lists from identified papers were reviewed for potential papers that might answer the review question.

Search syntax is presented in Appendix 9. All databases were searched using the same search strategy and keywords. The following keywords were used during searching:

"Mental health nurs*" OR "psychiatric nurs*" OR "psychiatric hospital staff" OR "psychiatric unit staff" OR "mental health hospital staff" OR "staff" OR "registered nurs*" OR "RGN" OR "RMN" OR "nurs* assist*" OR "car* assist*" OR "health* car* assist*" OR "support* assist*" OR "support* work*" OR "help* work*" OR "car* staff" OR "car* work*" OR "mental health work*" OR "psychiatric staff" OR "Psycholog*" OR "Occupational Therap*" OR "Social Work*" OR "Doctor" OR "Manager"

AND

"Clinical supervision" OR "supervision" OR "professional supervision" OR "peer supervision" OR "group supervision" OR "team supervision" OR "one to one supervision" OR

“reflect* supervision” OR “reflect* practice” OR “reflect* group” OR “reflect* work*” OR “psychology*” OR “counselling” OR “counselling psychology” OR “cognitive behavio$ral therap*” OR “CBT” OR “counselling therap*” OR “psychotherapy*” OR “peer support” OR “social support” OR “peer relations” OR “support group” OR “group counselling” OR “intervention” OR “manag*support” OR “manag*” OR “organization* support” OR “organisation* support” OR “debrief*”

AND

“Burnout” OR “occupation* stress*” OR “professional stress” OR “job stress” OR “work stress” OR “stress” OR “depersonal*” OR “emotion* exhaustion*” OR “person* accomplish*” OR “Fatig*” OR “Emotion* stress” OR “Emotion* distress” OR “wellbeing” OR “Psycholog* stress” OR “Psycholog* distress” OR “Anxiety” OR “Emotion* pain” OR “Psycholog* issue” OR “Negative issue” OR “Negative impact”

AND

"Patient aggress*" OR "aggress* patient" OR "aggressive behavio$r" OR "work* agress*" OR "physical* violence" OR "Physical* abuse" OR "workplace abuse" OR "workplace violence" OR "verbal violence" OR "verbal abuse" OR "physical aggress*" OR "verbal aggress*"

Of those studies identified, their reference lists were also reviewed for potential papers which may answer the review question.

5.2.3. Data extraction.

The initial search from the six databases identified 2,944 references. From these, 2,756 were rejected based on the article title whilst a further 74 were found to be duplicates and removed.

The remaining 78 articles had their abstracts reviewed against the PICO criteria before 31 were rejected due to not meeting PICO. A further 40 articles were rejected after their whole text was sought and assessed alongside the PICO which they did not meet.

Data extracted were: year of publication, country in which the study was conducted, setting, participant numbers and

characteristics, intervention if applicable or support, outcome measures, and statistical findings of the support stated.

The sorting process is illustrated in figure 2.

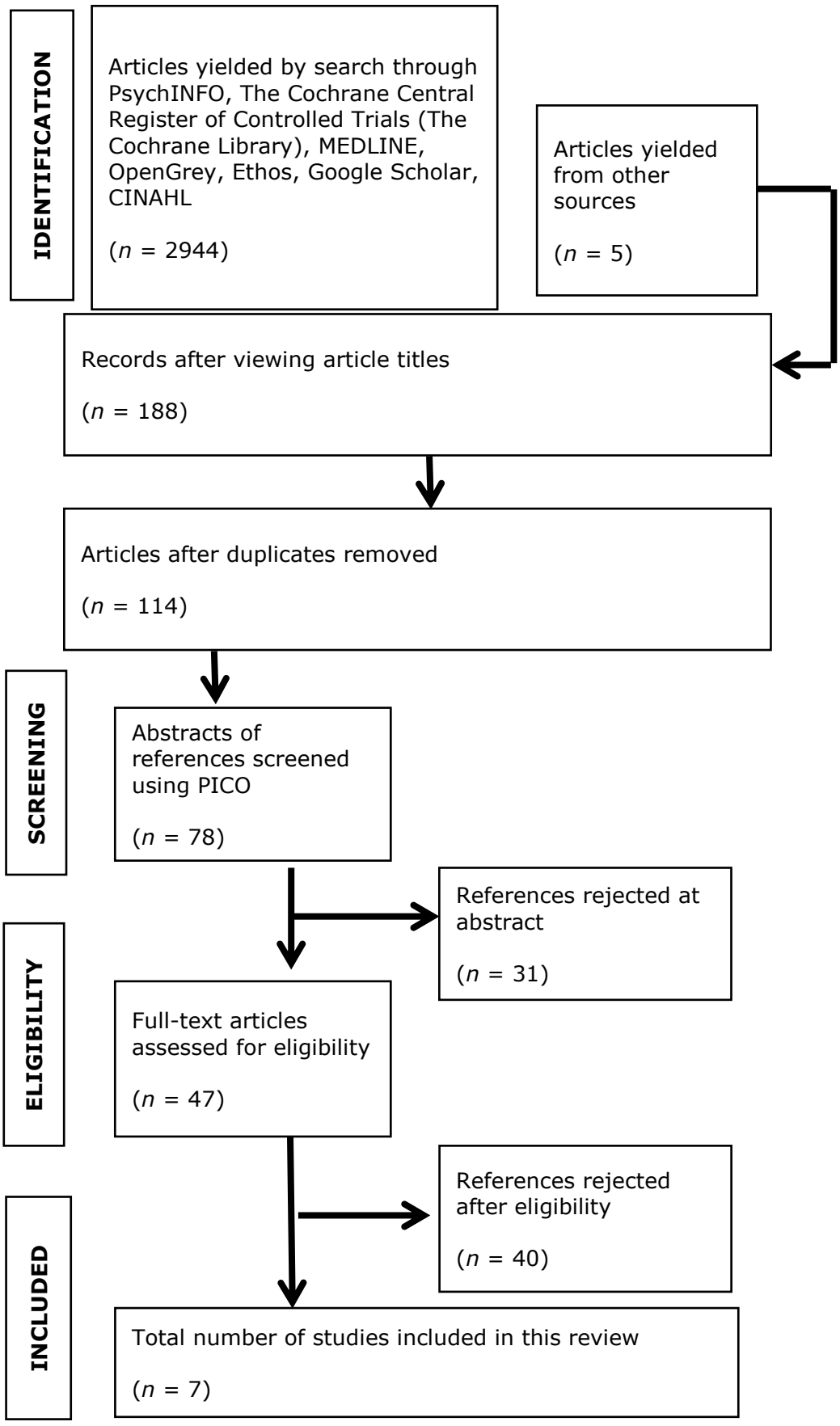


Figure 2: *Flowchart of Sorting Process*

5.2.4. Study selection.

Papers were selected based on the Population, Intervention, Comparison, Outcome (PICO) inclusion/exclusion criteria shown in table 12. Studies were examined for their suitability by reading their title and abstract. Those seen as possibly suitable had their full-texts sought and were further examined against the PICO using an inclusion and exclusion criterion form (Appendix 10).

Table 12: *PICO inclusion and exclusion criteria for the first stage*

	Inclusion	Exclusion
Population	General staff in psychiatric setting who have experienced workplace aggression by patients Psychiatric settings either in the community or in hospital. This can include general mental health, learning disabilities or forensic settings.	Accident & Emergency General Hospital Elderly Care
Intervention	Any intervention, exposure or strategy which staff use to overcome the impact of patient aggression. The intervention, exposure or strategy can be structured and person or organisation centred.	
Comparator	None	
Outcome	Burnout, stress, anxiety, emotional well-being and psychological distress experienced during work.	
Study design	Randomised Control Trial Cohort Case control Cross-sectional Case series	Editorials

5.2.5. Quality assessment.

Each paper was assessed for quality. This allowed the overall quality of the evidence the paper is presenting to

be gauged. The Risk of Bias in Non-Randomized Studies (ROBINS-I) was combined with the Effective Public Health Practice Project (EPHPP) assessment tool to produce one overarching tool for this review. The studies were assessed on their risk of bias with questions within the following sections: selection; study design; blinding; data collection methods; withdrawals and dropouts; intervention integrity; and analysis. The majority of questions within the QAT asked whether something was present, partially presented, not present, or if there was no information. Some of the questions would not be applicable to some study designs and, therefore, that option was available when need be. Each section was then rated on a three-point Likert scale for bias: low, moderate or high. This form is presented in Appendix 11.

5.3. Results.

A total of seven studies were included in this review and were assessed for their quality. Table 13 summaries the key information from each of the included studies.

Table 13: *Summary of Included Studies*

FSSB-SF - Family Supportive Supervisor Behavior Short-Form
NAQ-R - Negative Acts Questionnaire–Revised
MBI – Maslach Burnout Inventory
ERACBS - Emotional Reactions to Aggressive Challenging Behaviour Scale
DBSES - Difficult Behaviour Self-Efficacy Scale
EPQ - Eysenck Personality Questionnaire
SSS - Social Support Scale
RS - Resilience Scale
PSS-10 - Perceived Stress Scale-10
RSES - Rosenberg Self-Esteem Scale
GHQ-12 – General Health Questionnaire-12
PHQ – Physical Health Questionnaire
WVQ – Workplace Violence Questionnaire
STAI – State-Trait Anxiety Inventory
PNMCQ – PsychNurse Methods of Coping Questionnaire
DCL-SSQ - Devilliers, Carson, and Leary stress scale questionnaire
Bar-On - Bar-On Emotional Quotient Inventory

Author(s) and date	**Study Location**	**N**	**Participant Characteristics**	**Intervention/ Design**	**Outcome Measures**	**Findings**
Yragui, Demsky, Hammer, Van Dyck, and Neradilek (2017)	America Psychiatric hospital	417	56% female 63% white American 33.5% aged between 50 and 59 years Consisted of nurses, healthcare workers, psychologist, occupational therapists and social workers	Use of Family Supportive Supervisor Behaviour (FSSB) Cross sectional, survey design	FSSB-SF NAQ-R MBI Job dissatisfaction	FSSB was significantly and negatively associated with all health and well-being outcomes, physical symptoms ($p < 0.01$), exhaustion ($p < 0.01$), and cynicism ($p < 0.01$). FSSB was significantly associated with job dissatisfaction ($p < 0.01$) and turnover intentions ($p < 0.01$) FSSB moderated the relationship between patient physical aggression and physical symptoms ($p < 0.01$), exhaustion and cynicism ($p<0.001$). High levels of FSSB served as a protective factor, or buffer of the effects of patient physical aggression, with care

Author(s) and date	Study Location	N	Participant Characteristics	Intervention/ Design	Outcome Measures	Findings
						providers reporting fewer physical symptoms, as well as less exhaustion and cynicism under conditions of high FSSB.
Singh et al. (2015)	Learning Disability service	9	3 female Mean age 42 years.	Mindfulness-Based Positive Behaviour Support (MBPBS) Multiple baseline design	Objective measures: Verbal redirection, Physical restraint, Staff injury, Peer injury PSS-10 Staff turnover from HR	Overall, there was 7% decrease in perceived stress from pre-baseline to the start of the baseline (time 1), 48% decrease from the baseline to the end of the MBPBS practice phase (time 2), and 45% decrease from pre-baseline to the end of MBPBS practice phase (time 3). Perceived stress ratings at time 2 were significantly lower than those at time 1, and ratings at time 3 were significantly lower than those at times 1 and 2. These results indicate a continual downward trend in perceived stress ratings.
Reininghaus, Craig, Gournay, Hopkinson, and Carson (2007)	England High secure psychiatric hospital	636	68.2% male Mean age of 38.97 years Nursing staff	Cross sectional, survey design	PSS-10 RSES GHQ-12 PNMCQ	Self-esteem, self-confidence, perceived social support from outside work, coping, and perceived manager support were included in the model explaining 44.7% of variability in GHQ-12 scores ($P<0.001$). There was a statistically significant interaction effect of physical assault and

Author(s) and date	Study Location	N	Participant Characteristics	Intervention/ Design	Outcome Measures	Findings
						manager support on psychological distress (P=0.017). Physical assault was significantly associated with perceived stressfulness of the work area (P<0.001), perceived dangerousness of the hospital (P=0.042), coping (P=0.038), and support from outside work (P=0.016).
Whittington and Wykes (1992)	England Secure Psychiatric hospital	24	23 psychiatric nurses 1 doctor	Cross sectional, survey design	STAI-Y1 Strain Questionnaire Designed by authors: Victim Support Questionnaire	Many victims had 'counselling situation' at home or with colleagues. Very few had chance to talk to senior staff and many were dissatisfied with the support. No significant difference between support and levels of anxiety. Significant difference between support provided at first interview and levels of strain at the first and last interview. Support was informal Support was immediate but symptoms persist so support and acknowledgement needs to be longer term.

Author(s) and date	Study Location	N	Participant Characteristics	Intervention/ Design	Outcome Measures	Findings
Charlesworth (2004)	England Treatment and Recovery Service for Complex Mental Health	66	32% Male 50% Qualified Nurses Average age is 38 and 41 for the two units	Cross sectional, survey design	ERACBS DBSES Designed by Author: Management strategies Support Demographic	Peer support can reduce feelings of depression/anger. Support from a victim's team leader and team manager can reduce feelings of depression/anger and fear/anxiety.
Hsieh, Chang, and Wang (2017)	Taiwan Teaching Hospital Psychiatric Hospital	230	71 participants worked in psychiatric wards 61.7% aged above 30 years	Cross-sectional, survey design	EPQ SSS RS	Family and peer support were significant factors correlated with resilience. Family and peer support can strengthen and promote peer support after traumatic event.
White (2006)	America Locked Psychiatric Ward	46	82.6% female Mean age 48.4 years 89% Caucasian	Cross-sectional, survey design	PNMCQ DCL-SSQ MBI	Dealing with physical and verbal aggression was in the top 10 stressors for psychiatric nurses. The most common coping strategies included a stable home life and personal life. Supervision and a supportive manager were identified as some of the least used coping strategies.

5.3.1. Characteristics of included Studies.

5.3.1.1. Participants.

The studies included in this review were conducted in different regions of the world including the United Kingdom (2 studies), America (1 study), New Zealand (1 study), Canada (1 study), China (1 study), and Taiwan (1 study). Overall, the total sample size across all studies was 3757 with a range of 9 – 1793 (mean n=417). With available data, 2033 of the participants were female whilst 1328 were male. In regards to job title, the included studies had a range of professions. Many involved registered nurses, psychiatric nurses, and healthcare workers as well as psychologists, occupational therapists, social workers, and doctors. The studies were conducted in various settings but mainly focused in secure psychiatric hospitals with one study based in a Learning Disability community home.

5.3.1.2. Study design and outcome measures.

All included studies were quantitative in nature. One quantitative study used a multiple baseline design (Singh et al., 2015) whilst the others adopted a cross-sectional, survey design. Numerous measures were used to assess the negative health consequences of patient aggression, which were the MBI (Maslach & Jackson, 1986), Emotional

Reactions to Aggressive Challenging Behaviour Scale (ERACB; Mitchell & Hastings, 1998), Negative Acts Questionnaire–Revised (NAQ-R; Einarsen, Hoel, & Notelaers, 2009), Perceived Stress Scale-10 (PSS-10; Cohen, Kamarck, & Mermelstein, 1983), Rosenberg Self-Esteem Scale (Rosenberg, 1965b), General Health Questionnaire-12 (GHQ-12; Goldberg et al., 1997), State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983), and Strain Questionnaire (Whittington & Wykes, 1992).

Exposure to patient aggression was assessed through self-report questionnaire developed by authors, PSS-10 (Cohen et al., 1983), Exposure to Violence Questionnaire (developed by ILO, ICN, WHO & PSI, 2003), Devilliers, Carson, and Leary (DCL) stress scale questionnaire (Fagin et al., 1996), vignettes (Charlesworth, 2004), and observational data collection or the hospital Incident Reporting System.

Finally, supportive measures and coping strategies were assessed via the Family Supportive Supervisor Behavior Short-Form (FSSB-SF; Hammer, Kossek, Yragui, Bodner, & Hanson, 2009), PsychNurse Methods of Coping

Questionnaire (PNMCQ; McElfatrick et al., 2000), Social Support Scale (SSS; Smilkstein, Ashworth, & Montano, 1982), Resilience Scale (RS; Friborg et al., 2006), Difficult Behaviour Self-Efficacy Scale (DBSEC; R. Hastings & Brown, 1999), or questions developed by researchers.

5.3.1.3. Interventions.

As stated, six used a cross-sectional survey design so did not have an intervention (Charlesworth, 2004; Hsieh et al., 2017; Pai & Lee, 2011; Reininghaus et al., 2007; Singh et al., 2015; Whittington & Wykes, 1992; Yragui et al., 2017). The remaining quantitative study implemented a multiple intervention design (Singh et al., 2015) to assess the effectiveness of the MBPBS program, however, did not have a control group.

5.3.1.4. Quality of included studies.

All seven studies included in this review were subjected to quality assessment. The range of risk of bias ratings indicates that some findings and conclusions from the studies will be more accurate and reliable than others. Due to the low number of studies investigating the support that aids recovery from patient aggression, all studies were included in this review. The generalisability and

implications of the findings have been considered and discussed considering their quality assessment rating in the conclusion. The ‘risk of bias ratings’ are shown in table 14.

Table 14: *Quality Assessment – Risk of Bias*

	Selection Bias	Study Design	Blinding	Data Collection Methods	Withdrawals and Dropouts	Intervention Integrity	Analysis
Yragui et al., (2017)	Low	High	High	Moderate	Moderate	Not Applicable	Low
Charlesworth (2004)	Moderate	High	Moderate	Low	Low	Not Applicable	Low
Singh et al., (2015)	Moderate	High	High	Moderate	High	Moderate	Low
Reininghaus et al., (2007)	High	High	High	Moderate	High	Not Applicable	Low
Whittington and Wykes (1992)	High	High	High	High	High	Not Applicable	Low
Hseih et al., (2017)	Low	High	High	Moderate	Low	Not Applicable	Low
White (2006)	High	High	High	Moderate	Low	Not Applicable	Low

Whilst it is important to complete and understand the quality of the included studies through the use of pre-defined quality assessment tools, it is also important to have an understanding of the specific tools used within the included studies. It is important to know whether the tools are good and if they measure what the authors set out to measure before conclusions can be confidently accepted. To do this, the reliability and validity of scales need to be understood.

Reliability.

A widely accepted way of describing Cronbach's alpha scores state that 0.9 above is excellent, 0.9-0.8 is good, 0.8-0.7 is acceptable and under 0.7 is poor (George & Mallery, 2003).

As stated in the critique of this thesis, the MBI received favourable reliability scores. EE received scores between .85-91 suggesting 'good' levels of internal reliability, DP between 0.58-0.79, and PA between .71-.82 meaning these subscales have more variety in their reliability (Aguayo et al., 2011; Loera et al., 2014; Richardsen & Martinussen, 2005; Soler et al., 2008).

The ERACB was found to have 'good' internal consistency for the two subscales (.82 and .85; as cited in Charlesworth, 2004). Other scales with 'good' internal consistency were PSS-10 (.89; Roberti, Harrington, & Storch, 2006); STAI (.86; Spielberger et al. (1983); and SSS (.87; Smilkstein et al., 1982).

Several of the measures received 'excellent' scores of internal reliability such as the NAQ-R (.90; Einarsen et al., 2009); Rosenberg Self Esteem Scale (.92; Rosenberg, 1979); DCL-SSQ (.96; cited in White, 2006); FSBS-SF (.94; Hammer, Ernst Kossek, Bodner, & Crain, 2013); PNMCQ (.90; McElfatrick et al., 2000); DBSES (.94; Hastings & Brown, 2002). Only the GHQ-12 received 'satisfactory' internal reliability (.78; Salama-Younes, Montazeri, Ismaïl, & Roncin, 2009).

Validity.

Validity has been found for the tools used in the included studies. For example, the RSE was found to be correlated with other similar measures (Rosenberg, 1965a) as was the MBI (Maslach & Jackson, 1981b); and FSSB-SF (Hammer et al., 2009). The PNMCQ was found to have good face and content validity (McElfatrick et al., 2000)

with similar results being found for the DCL-SSQ (Fagin et al., 1996). Charlesworth (2004) cited the ERASCB as having good validity but did not specify more information regarding what type of validity it satisfied. With regards to the NAQ-R, Nam, Kim, Kim, Koo, and Park (2010) found the psychometric had criterion and construct validity as it was appropriately correlated with other similar measures assessing workplace stress. Additionally, the PSS-10 has been shown to have good construct validity with Smith, Rosenberg, and Haight (2014) highlighting appropriate convergent and divergent validity within the measure.

5.3.2. Descriptive Data Synthesis.

5.3.2.1. The use of coping strategies after patient aggression.

The present review highlighted the main ways staff cope with aggression in the workplace. Coping strategies were categorised into two main focuses; person-centred approach and organisational approach to support as well as emotional or problem focussed approach.

5.3.2.2. Person-centred and emotion focussed approach.

Peer Support.

Peer support is a system of giving and receiving help founded on key principles of respect, shared responsibility,

and agreement of what is helpful (Mead, 2003). Individuals use shared experiences to support each other and one approach is with work colleagues. Peer support can be an informal process or it can be organised by the staff themselves through the means of support groups and meetings. Peer support is seen as a person-centred approach to coping as it is orientated around and by the individual. It also takes on an emotional focused approach as the individual seeks social support and approval which can regulate the emotion of stress.

Three of the identified studies discussed the use of peer support from colleagues in alleviating the negative consequences of workplace aggression. Hsieh et al., (2017) found a strong association (P=.006) and positive correlation (r=0.401, P<.001) between peer support and resilience after a nurse experienced patient aggression. Furthermore, Charlesworth (2004) found significant positive correlations between peer support and depression/anger negative emotions, suggesting that staff who report positive peer support also report lower feelings of depression and anger after patient aggression. However, the researcher noted that this was only significant at

$p<0.05$ level and indicated only a small strength of association ($r=.263$).

Whittington and Wykes (1992) found 31% of staff used colleague support after assault by a patient, whether, immediately after the incident or later in the shift. Whittington and Wykes (1992) stated that any support that was used was utilised within the first 24 hours. However, Baxter et al. (1992) found the negative consequences of patient assaults can have a lasting effect; therefore, support needs to be longer term.

Whittington and Wykes (1992) found most support was informal where there was no formal process in supporting assaulted staff members. The other studies which highlighted the use of peer support, also found that this coping strategy was predominantly done on an informal basis instead of organised through support meetings or groups. Therefore, even though peer support can be used in a formal and structured manner, the majority of this type is sought in an informal manner where staff talk to peers when available. Informal strategies and support goes against proactive coping as without formal means, staff

members cannot rely on knowledge in what is available to them and there may not be consistent support strategies.

Friends and Family Support.

In addition to colleague support, support from family members and friends is another aspect of person-centred and emotion focussed approach to support and has been explored. Again, this type of support can be utilised in an informal process whereby staff simply talk to their friends and family in home or social environment; or staff can use this in a formal process through specific supportive groups. Whittington and Wykes (1992) found 28% of victims experienced counselling situations in the home at the end of the day. Hsieh et al. (2017) explored the use of family support by victims of patient aggression and found a positive association ($p=0.031$) between this support and resilience as well as a positive correlation ($r=.289$, $p<.001$).

Institutional Support.

The most common form of coping discussed by research has been support received from their place of employment, also known as institutional support. Even though institutional support can be utilised in an informal manner,

it can be a formal process as well. The formal process can take on supervision and team support adopting a person-centred and emotional-focused strategy in order to overcome the effect of inpatient aggression. Institutional support can also be organisation-centred and problem-focussed through things such as training.

Furthermore, institutional support can be further subdivided into instrumental and informational support. Instrumental support has been defined as "involving instrumental behaviours that directly help the person in need" (House, 1981, p. 25), which might include taking care of or helping someone. Informational support involves "providing a person with information that the person can use in coping with personal and environmental problems" (House, 1981, p. 25). Instrumental support can be utilised through management and supervision as the role of the supervisor is to provide care for their staff members and not simply provide information. However, informational support is typically utilised through training opportunities or psychoeducation. These forms of institutional support fall under positive resources according to the JD-R Model as they are aspects implemented at work which helps manage the demands of the job.

Supervision.

Supervision and managerial support is an instrumental support utilised through a person-centred and emotion-focused approach as it attempts to reduce the negative impact of aggression through the care they can provide. Supervision is another positive job resource according to the JD-R Model as it can help alleviate the demands of work through gaining support, reducing the psychological toll of work stress, and encourages personal growth and learning through discussions.

Charlesworth (2004) found medium strength of association between the support of the victim's team leader ($r=.351$, $p<0.01$) and team manager ($r=.466$, $p<0.01$) and feelings of depression/anger and a small significant positive association between team leader ($r=.218$, $p<0.05$) and managerial support ($r=.239$, $p<0.05$) and feelings of fear/anxiety, thus alleviating the psychological consequence of job demands. This research suggests instrumental support can be somewhat useful in managing negative emotions and further research has supported this conclusion.

FSSB had a positive impact on victims of patient physical aggression (Yragui et al., 2017). The researchers examined the moderating effects of FSSB on the relationship between patient initiated physical aggression and employee well-being and work outcome. A total of 412 participants rated their supervisor's and family-supportive behaviours as well as burnout, job satisfaction and intention to quit work. Exposure to violent incidents was assessed across a two-year time frame through self-reports. FSSB was significantly and negatively associated with all health and well-being outcomes, job dissatisfaction and turnover intentions. FSSB moderated the relationship between patient physical aggression and physical symptoms ($b=-0.20$; $p<0.01$), exhaustion ($b=-0.34$; $p<0.01$), and cynicism ($b=-0.27$; $p<0.01$). Yragui et al., (2017) concluded that high levels of FSSB served as a protective factor of the effects of patient physical aggression, with victims of aggression reporting less physical symptoms, as well as less exhaustion and cynicism under conditions of high FSSB. FSSB was a good resource available to staff members as it was shown to significantly reduce the consequence to the demand of aggressive behaviours. In addition, FSSB is a positive resource for

encouraging personal growth as it focussed on a good work-life balance.

Reininghaus et al., (2007) examined the causal role of stress resistance resources (SRRs) in the stress process following physical assault. A total of 636 nurses completed various questionnaires such as the PSS-10, PNMCQ, GHQ-12 and Rosenburg Self-Esteem Scale. Reininghaus et al., (2007) found perceived manager support significantly alleviated the negative consequences of workplace aggression ($p<0.001$). The researchers concluded the specific SRR of perceived manager support was effective in mediating the association between physical assault and psychological distress.

However, White (2006) came to a different conclusion around the use of instrumental institutional support by exploring typical stressors for nurses and what strategies are utilised in coping. White (2006) found that dealing with dangerous situations was the second most stressful experience for nursing staff whilst managing physical and verbal abuse from patients was the eighth most stressful situation. However, the participants in this research identified the following coping strategies as the least

utilised in managing their stress: one-to-one supervision; team supervision; support from my manager; and knowledge that support and advice are available. Therefore, the coping strategies identified in White (2006) are types of institutional support but the results have shown them to be the least optimised strategy for handling stressors where dangerous situations, and physical and verbal aggression were both common. This conclusion is supported by Whittington and Wykes (1992) who found only 33% of victims had the opportunity to speak to a colleague of a higher grade.

5.3.2.3. Organisation-centred and problem focussed approach.

Training provided by an institution has an organisation-centred and problem-focused approach. This allows places of work to attempt to make organisation wide changes and focus on the problem of inpatient aggression and reduce incidents through skills training.

Organisational Training.

One included study explored informational support which was used in the form of organisation-centred and problem-focused coping. This type of coping leads the institution

attempts to make changes and focuses on the problem through staffing skills in reducing incidents of aggression. Singh et al. (2015) explored the effect of MBPBS training on mediating the effect of workplace violence on staff stress. Nine participants who work directly with patients, completed the PSS-10 at pre-baseline, baseline and MBPBS practice. Analysis showed PSS-10 scores were lower at baseline compared to pre-baseline and scores during MBPBS practice were lower than both pre-baseline and baseline. The change in perceived stress ratings across time points was statistically significant ($F(2,16)=170.26$, $p<.001$). Singh et al., (2015) concluded that training in MBPBS led to a decrease in staff stress. Due to this positive job resource of helping staff members manage the job demand of stress there was a positive effect on staff turnover and better cost-effectiveness for the organisation.

5.4. Discussion

5.4.1. Summary.

The main aim of this systematic review was to explore the coping strategies staff adopt to overcome the negative impact patient aggression has. Previous research has highlighted the impact patient aggression has on staff in terms of burnout (Evers et al., 2002; Winstanley &

Whittington, 2002), and job satisfaction (Fernandes et al., 1999; Roche et al., 2010). Research has shown different approaches to coping but it became clear from reviewing literature that there is a lack of research specifically investigating the use of coping strategies staff use in relation to inpatient aggression. The key findings from this review provide some support for the effectiveness in coping strategies in alleviating the negative effects staff experience after patient aggression. The findings highlighted the use of organisational support, as well as personal coping strategies.

5.4.2. Interpretation of Findings

The majority of included studies explored the use of person-centred and emotion focussed coping in terms of peer, friends and family support, and supervision. There was only one included study which assessed the use of organisation-centred, problem-focused coping in terms of training.

This systematic review has highlighted the benefits of support from institutions, especially around managerial support. However, research has shown that, in practice, this support is lacking because staff feel management do

not support employees due to lack of formal processes to help victims of patient aggression. Many studies found supervision, managerial support and training can significantly reduce adverse effects from physical and psychological aggression. Therefore, this study highlighted how there are useful resources to support staff victims of inpatient aggression. The resources were good in alleviating the consequence to the job demand of aggression and through providing personal and developmental growth. The resources also aided in reducing burnout (Yragui et al., 2017), depression and anger (Charlesworth, 2004), anxiety and fear (Charlesworth, 2004), physical health symptoms (Yragui et al., 2017) well-being (Reininghaus et al., 2007; Singh et al., 2015), and intent to leave work (Singh et al., 2015) as well as how organisation support can improve resilience (Hsieh et al., 2017) which can be an effective way to manage trauma after experiencing aggression. Even though research has supported the use of organisational support, this support is not being implemented within the workplace (White, 2006; Whittington & Wykes, 1992) leading few staff to believe it is supportive (Whittington & Wykes, 1992).

The JD-R Model informed how it can support staff through high resources. This chapter has highlighted how this is not available to staff members and, alongside the qualitative strand, these studies showed how low resources are present across the different stages of inpatient aggression. Low resources were discussed in terms of being risk factors to aggression occurring but also were not present enough in the aftermath which can perpetuate the consequences highlighted in the quantitative work. Therefore, the study was informed by the JD-R Model and the results confirmed why and which job resources need to be utilised in forensic healthcare.

Whilst conducting the scoping exercise, several qualitative studies have explored the views of nursing staff on effective coping strategies (Baby, Glue, & Carlyle, 2014; Bimenyimana, Poggenpoel, Myburgh, & Van Niekerk, 2009; Greenwood, 2016; Jussab & Murphy, 2015). These were not included in the synthesis of data, however, can be useful in understanding the results found in the included quantitative research. In terms of the use of managerial support, Baby, Glue and Carlyle (2014) found this support lacked a personal stance and staff were unsure on how supportive they were whilst the psychologists in Jussab and

Murphy (2015) study stated that it was hard to get appropriate supervision as the supervisor prioritised the patient's feelings. Bimenyimana et al. (2009) reported that poor managerial support can lead to patient aggression. Participants reported feeling that management and senior staff members, such as psychologists, do not respect nurses and put pressure on nurses instead of understanding the stressful situations they experience. Additionally, participants reported poor orientation from management which lacked an understanding of aggression where newly qualified staff are not clearly inducted about potential for patient aggression leading to an increase in fear when that staff member does experience their first instance of aggression. Greenwood (2016) found many participants felt poor support from colleagues and managers led them to feeling devalued whereby many were not asked how they were feeling after the aggressive episode nor were they given appropriate support when they returned to the ward. These experiences led participants to feel they had to 'put on a front' and were unable to be honest with their colleagues or themselves on how they were feeling.

Therefore, the results from the qualitative research supports the quantitative research. Whilst research showed the value of structured organisational support in reducing negative effects (Reininghaus et al., 2007; Singh et al., 2015; Yragui et al., 2017), descriptive research supports the findings from White (2006), and Whittington and Wykes (1994) which suggests that, in practice, managerial support is not often utilised. The qualitative research aids in explaining this as managerial support is not personal, can create the negative feelings experienced from patient aggression and do not provide a safe space to explore the feelings caused from the trauma. Similarly, these findings from both aspects of research continue to highlight that staff members are not able to rely on proactive coping and may rely on more reactive coping. This is because staff members are not confident on the support available to them meaning they cannot depend on engrained knowledge and awareness which proactive coping lends to. This engrained knowledge supports in forward-thinking skills and allows for quality of life management (Greenglass, 2002) as well as an ability to prevent stressors due to environment knowledge (Ouwehand et al., 2007). Therefore, due to staff members not being confident

on organisational support, they cannot utilise proactive coping which impacts on several adaptive skills.

Even though the majority of coping is person-centred, it is important for institutions to take an organisation-centred approach to be able to implement the person-centred coping. Whilst supervision is seen as person-centred due to it focussing on and empowering the individual, the use of supervision is an organisation-centred need. By this, it means organisations need to take on an institution wide approach to encourage and support effective supervision. Once effective supervision is implemented and seen as approachable and available, supervision can take on its person-centred approach of focussing on the individual. Without organisations creating a positive supervision and training attitude then staff will continue to perceive it as lacking and not utilise it.

5.4.3. Limitations of included studies.

The studies identified a variety of coping strategies used by victims of physical or psychological patient aggression. However, there are limitations to the studies revealed. Six of the studies adopted a cross-sectional design. There are advantages to the cross-sectional design. For instance, it

allows researchers to explore the thoughts and feelings of participants, gather a large data set in a short period of time and there is no need to conduct a follow up with participants reducing the risk of attrition. However, it would be hard for the researcher to control for confounding variables. There could have been other elements leading the participant to experience an increase of negative emotions which might not have been obvious to him or herself.

Another limitation of included studies focuses on the recall period for patient aggression. Many of the studies asked participants to recall any physical and verbal incidents in the last 12 months (Hsieh et al., 2017; Pai & Lee, 2011; Reininghaus et al., 2007; Yragui et al., 2017) or the previous 2 years (Yragui et al., 2017). Participants may not recall accurately the number of incidents they have been involved in, especially with verbal aggression or their feelings or the support received in the aftermath of the incident. This recall period questions whether the negative feelings were reported accurately and, as with the previous limitation, the participant may have recalled negative emotions which were in fact related to another situation at work or in their personal life. Whilst there are ethical

considerations when assessing recently assaulted staff members, Whittington and Wykes (1992) were able to interview participants within 72 hours of an incident. Furthermore, Charlesworth (2004) adopted the use of vignettes describing a situation whereby a patient is aggressive towards a staff member. Even though this can be an effective way to capture participants as they do not need to recall experiences of aggression, it has its limitations in terms of whether a vignette truly captures the emotions and strategies the participant may feel when experiencing actual aggression.

Singh et al., (2015) did use an experimental design. However, there was no control group in this study meaning there is no reliable baseline data to compare the results with. It was also a small sample size (n=9) limiting the study's generalisability. To conclude the results with confidence, there needs to be a further study with a larger sample of participants and a control group.

One of the main limitations of the included studies focused on sampling bias. In Yragui et al., (2017), 412 participants completed this study, however, the researchers yielded a relatively low response rate (41.3%). Singh et al., (2015)

completed their study with nine participants and White (2006) had 51 participants with 51% response rate. While Reininghaus et al., (2007) reported a large sample size (n = 636), the response rate was not stated leading to a limitation in interpreting the findings as participation bias remains unclear. Whittington and Wykes (1992) did not report their response rate but had a small sample of 24 participants. Low response rates and small participant numbers brings into question the generalisability of the results and a limitation in the interpretation of the findings. Two included studies had good response rates allowing the results to be generalised to similar samples of nursing staff. Charlesworth (2004) did have a smaller sample of just 66 participants but had a response rate of 76% whilst Hsieh et al., (2017) had a good sample size of 230 with a strong response rate of 84.5%.

5.4.4. Strengths and limitations of review.

The strength of this systematic literature review is that there appears to have been no previous review exploring the coping strategies mental healthcare staff adopt after experience physical or psychological aggression from patients. As such, this review is unique in its aims, and its findings can have an impact on the development of future

research studies. Future research studies may then continue to inform professional practice and support for staff.

Another strength of this review is the focus it pays to mental health professionals. The review includes 3757 participants from registered mental health nurses to healthcare assistants who all work with patients with mental health needs. Much previous research has not had this specificity and investigated general health care nurses. Therefore, it will be possible to generalise the findings from this review to the mental health staff population as the specific focus on these professionals in this review can shape future research and practice as the personnel are at risk but there is minimum research conducted on these participants (Cunningham, Connor, Miller, & Melloni, 2003).

One limitation with this review is that it only included and discussed published work. Despite the search strategy, no previously unpublished studies or theses were identified. It is unlikely that no unpublished work exists in this field of research. Therefore, there could be a biased conclusion in the overall findings of this review. Publication bias in the form of the 'bottom-drawer effect' is where research has a

higher likelihood of publication if findings are significant. Dickersin, Chan, Chalmersx, Sacks, and Smith (1987) found statistically significant results were three times more likely to be published than studies with a null result. This form of bias can bring into question the validity of the synthesis and interpretation of this review. Nonetheless, due to the limited studies, it was important to conduct this systematic review using all available studies and it can help highlight the need for more research specific to coping strategies in mental health settings.

5.4.5. Future recommendations.

Future research should focus on developing more insight into the practices that prove beneficial to staff who experience negative emotions after patient aggression. These practices include, supportive supervision, training, managerial support, and providing appropriate information to staff. It is important to support victims of patient aggression as previous research has shown patient quality of care is reduced when staff experience burnout (Argentero et al., 2008; Toral-Villanueva et al., 2008), and low job satisfaction (Chang et al., 2009; McHugh et al., 2011). Therefore, as previous research has shown the implications of negative effects and this review has

highlighted some supportive measures, future research must further explore effective coping strategies and improve organisational insight into how staff should be supported.

One way future research can bridge this gap is by fully exploring whether the coping strategy does, in fact, alleviate the negative impact. Many of the included studies discussed the coping strategy but did not have a clear link to their effectiveness. This is due to the prominence of the cross-sectional design. An experimental study design with pre and post outcome measures with a control group will show clear links to what is effective in this area of research. However, it is important to consider the potential ethical implications of such a study design. There would be challenges in proposing an effective intervention supporting victims, and preventing some participants from accessing this intervention.

Ethical implications need to be noted as staff who have recently experienced patient aggression may not be comfortable or ready to discuss their experience, preventing researchers from including them in the study and exploring adaptive coping strategies. This will lead to a

crucial group of participants not being involved in the research.

A future recommendation from this review is for organisations to be supported in adopting the coping strategies staff members appreciated and recognised as helpful. Even though some of the included studies did not show clear links due to their study design, staff had the opportunity to discuss what strategies would support them. The review has helped improve organisational insight in terms of adopting certain approaches to satisfy employees needs and desires. Whilst future research is being conducted, staff will feel better supported and listened to by their employers which will increase staff morale.

5.4.6. Conclusion.

In conclusion, organisational support can be successful in reducing the negative effects staff experience from patient aggression. However, in practice, these strategies were not used, hence, staff were expected to use personal coping strategies. There needs to be an increase in organisational insight into the impact patient aggression (both physical and psychological aggression) has on their staff as well as how they can better support the victims. However, this

review also highlighted the need for future research to be conducted. Included studies in this review lacked experimental study designs with control groups leading to the limitation of definitive conclusions.

6. CHAPTER SIX: CONCLUSION

6.1. Aims of Thesis

This thesis aimed to develop better understanding of the role inpatient aggression has on staff within forensic healthcare settings. Previous research has discussed the need to support staff after incidents to alleviate potential consequences. However, in order to implement appropriate support, there needs to be an understanding of the prevalence and impact on staff that experience inpatient physical aggression. The thesis drew on previous research which has highlighted the problem of patient on staff assaults in psychiatric and forensic healthcare settings. In order to support staff and manage inpatient aggression in secure forensic healthcare, there needs to be explicit research conducted in this setting. The aim of this thesis was to explore inpatient aggression within private forensic healthcare from start to finish. Aggression takes on various stages from the antecedents of the behaviour, to the impact, and to the after-care which is important to understand to ensure that appropriate care and support is provided at all stages in order to reduce aggression and to care for the victim. Therefore, this thesis took on each section of the stages of aggression to provide a holistic view of inpatient aggression within private forensic

hospitals. A critique was also conducted to confirm the use of a psychometric measure through this literature and in the subsequent chapters of this thesis.

To reach the aims, this thesis utilised a variety of methods. It demonstrated the risk factors staff perceive to be relevant in patient on staff aggression (chapter two); critically evaluated a psychometric measure regularly used in this research area (chapter three); explored non-somatic symptoms after physical assault whilst commenting on the prevalence of inpatient aggression (chapter four); and systematically reviewed coping strategies staff typically adopt after experiencing physical or verbal inpatient aggression (chapter five).

6.2. Summary of Findings

Inpatient aggression has antecedents which need understanding in order to implement appropriate measures to reduce the number of incidents. A thematic analysis was conducted to assess what risk factors staff perceived to be important in patient aggression within secure forensic healthcare. Previous research has highlighted situational risk factors to aggression which these findings support and the findings explained how previous situational factors may

have arisen. For example, ward atmosphere is related to inpatient aggression (Duxbury & Whittington, 2005) and this study highlighted how poor communication styles, inconsistent teams, and a lack of staffing resources were common themes in negatively affecting the atmosphere. Findings also related to PRISM as overlapping risk factors include the perception that the organisations lack cohesion and communication skills whilst there is a general lack of understanding clear job roles (Cregg & Payne, 2010), and policies in identifying and managing risk are not effective (Johnstone & Cooke, 2010).

A prominent tool used throughout this research area and in this thesis is the MBI to measure burnout levels in staff. This review found the MBI to be an effectively valid and reliable measure of burnout. Overall, the MBI showed internal and test-retest reliability as well as being satisfactory across a range of types of validity whilst the three-factor structure of the model was supported. Thus, this chapter highlighted the reason the tool was used within the subsequent quantitative work and systematic review.

The quantitative strand of the thesis sought to explore the difference between staff who have been physically assaulted to those who have not in terms of burnout, anxiety, and job satisfaction. The results highlighted that staff victims of inpatient aggression are more like to be unsatisfied with their jobs and experience DP towards patients. Though the number of incidents of inpatient aggression did not affect these negative consequences.

The quantitative strand further found that trait anxiety predicted the three subscales of burnout whilst job dissatisfaction predicted DP. This was conducted as burnout, anxiety, and job satisfaction were related to low resources and the motivational process of the JD-R Model. It was thought that, due to this link, anxiety and job satisfaction can be identified in staff members and used to signify further difficulties in their well-being and highlight potential consequences organisations should be aware of.

Using a systematic review framework, the thesis sought to explore what coping strategies staff members use after they have experienced inpatient aggression. As highlighted in the quantitative strand, staff experience some level of non-somatic symptoms, therefore, it is important to

understand the coping strategies adopted by victims of inpatient aggression.

There were favourable findings for supervision, managerial support and training in reducing non-somatic symptoms as well as poor physical health. However, one study found that whilst these techniques can be effective, they are organisation led and many staff members do not feel confident in these services. Furthermore, staff members were concerned about seeking support from colleagues as it can lead them to feel devalued. The findings from this systematic review suggested that staff members tend to rely on reactive coping due to the lack of confidence in the organisation supporting them. The qualitative research also found managerial support was not personable or reassuring, and can be a risk factor in inpatient aggression, therefore, suggesting that poor managerial support was a common feature across the different stages of inpatient aggression. Overall, the systematic review suggested that organisations had low resources and this perception prolonged the negative consequences to inpatient aggression as victims had not accessed or received correct coping strategies.

6.2.1. Findings in relation to the job demands and resources model.

One model used throughout the thesis to support in understanding the process of inpatient aggression is the Job Demands-Resources Model (JD-R; Demerouti et al., 2001). This model stated that occupational stress occurred when an employee had high demands in their job roles and low resources to complete tasks safely. It continued to state that job demands are related to health impairment process where high demands are likely to lead to poor health in terms of disturbed sleeping patterns and stress. Job resources, on the other hand, are related to the motivational process where employees are motivated and engaged in their work when they feel the organisation provides a good standard of support. This model was used in this thesis to understand whether job demands and resources can lead to inpatient aggression and whether there are appropriate resources following an incident to support the victims.

Job demands were identified through the definition within the model and were related to aspects of work that need physical or mental effort by the employee. Inpatient aggression was seen as a high job demand based on this

definition. The qualitative work highlighted further job demands which the participants spoke about as aspects of their work which led to extra effort such as needing to cover additional duties due to the low resources of poor staffing and needing to manage the inconsistency between teams. The quantitative research explained that the demand of aggression led to trait anxiety and DP which was explained through the health process of the JD-R Model.

The resources identified in this work related to the support and presence of senior staff members as it took the pressure from frontline staff. These also helped prevent poor communication and routines which were conceptualised as resources as these were work aspects which supported staff in completing their workload. Other resources which were lacking and were seen as influential in aggression included training and capable permanent staff. The systematic review also explained how resources were low in supporting staff after inpatient aggression as there was a lack of supervision, training and peer support. These low resources aggravated the negative feelings staff members reported after being a victim to an incident. The low resources within this thesis were seen as leading to

inpatient aggression as well as increasing the demands of workers.

The JD-R Model explained that job demands are related to the health process of staff members whilst the job resources pathway is related to the motivational process. The model posited that when these pathways are negatively affected then it can play a role on the attitude staff members have towards their organisation. This thesis supported this consequence. The health process was negatively impacted due to staff members having significantly different scores for DP which, according to the systematic review, would continue to be present in staff if they did not receive appropriate support following an incident. The qualitative strand discussed how staff were less willing to complete tasks, identified negative aspects of their work, and had a desire to blame others for the stress they experienced suggesting low motivation. The quantitative strand showed further motivational pathway consequences due to staff members experiencing low job satisfaction after the demand of inpatient aggression.

From the work in this thesis, participants critiqued their organisation for some factors that led to inpatient

aggression whilst also critiquing their post-incident support. The systematic review highlighted how staff critiqued the organisation and senior management for not supporting them after an incident of inpatient aggression. Therefore, the demand of aggression and the low job resources available to staff members affected the health and motivational pathway which, in turn, affected the attitude staff members may have towards their organisation and senior staff members. Figure 3 presents the findings in a visual map.

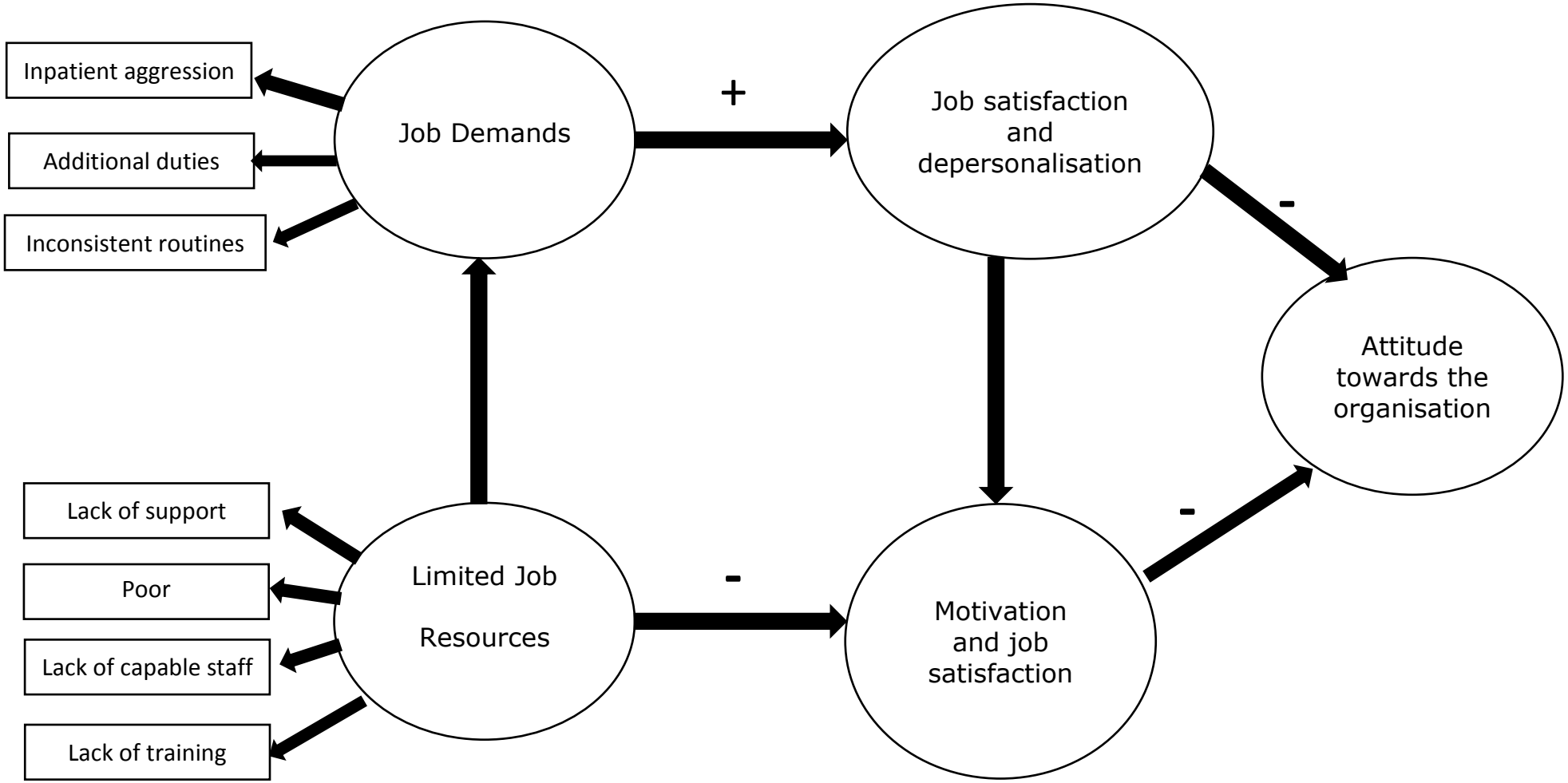


Figure 3: Job Demands and Resources Model with Inpatient Aggression

6.3. Thesis Implications

This thesis was informed by the JD-R Model to help explain inpatient aggression. The model helped inform that patient aggression can arise due to high demands and low resources available which affects the health (DP) and motivation (job satisfaction). The systematic review explained how resources were successful in reducing the negative consequences. Positive results were found for supervision, training, and managerial support but studies found that these were not utilised as staff members did not see these as available or worthwhile.

The model can be further utilised to show how potential other consequences an employee has may arise. A staff member with trait anxiety could signify that the individual could score high on burnout whilst job dissatisfaction could highlight DP. The JD-R Model highlighted how these are connected as burnout, anxiety, and job satisfaction have been shown to be related to the health and motivational process of the JD-R which impacts an employee's level of DP.

A common theme in this thesis was staff members not feeling supported by their organisation. Recommendations

were discussed throughout the thesis and focussed on improving the resources available to employees. It is vital for organisations to provide more stability and support to ward based staff which mediates the duties and emphasises a positive atmosphere to work in and prevent incidents of inpatient aggression. Without a stronger managerial presence on the ward, ward staff will perceive managers as not caring and will perpetuate those staff members in needing to handle patient requests and the instability on the ward. Without the appropriate training, new staff will continue to lack confidence in their job role and provide incorrect answers to patients which can lead to frustrations. This will also have consequences to other staff who will need to cover additional duties to support the new staff which could distract from crucial needs.

Following on from the qualitative strand, this lack of resources and support continued to the systematic review. Resources were found to be a supportive factor in ensuring staff members become healthy and return to work in appropriate ways and time. It is important that supervision and managerial support is increased as this can be used as a way to show that supervisors are available to employees and they are interested in their well-being. If this occurred

then staff would know who to ask for support from after inpatient aggression and feel comfortable in approaching senior staff. One study found that employees did not feel valued and senior managers did not ask how they were feeling. This would lead staff to feel that the contact they have with managers would not be focussed around their well-being but rather in order to have a timeline for their return to work. From the ward atmosphere to after inpatient aggression, perceived support on well-being continued to be vital. The organisations should ensure that any follow up contact should be humanised and be focussed purely on how they are feeling and what the organisation can do for them or their family to continue their care. One way this could be done is through allocating staff members who are not tied to the ward the incident occurred on. For example, instead of the ward manager calling the victim, a staff member from a different ward's Multi-Disciplinary Team (MDT) could be tasked with their support.

6.4. Thesis Limitations

Similar limitations were found across this thesis. The qualitative study had a small sample despite saturation being met whilst the quantitative study had a low response

rate brining into question the generalisability of the results. Only seven studies were included in the systematic review and the conclusions would have been more robust if more studies were available at the time of this review.

Another critique of the sample was job roles who participated in this study. The majority of participants were currently employed as HCWs and RMNs with a lack of representation from managers. Managers would have been a vital resource to explore risk factors with and, as the qualitative work highlighted a lack of managerial presence, it would have been worthwhile understanding their viewpoint. Another missed group of participants in this thesis were previously employed staff who left the setting after an incident of physical aggression. This would have supported the qualitative work as they could have given first-hand account of their experience and in the quantitative study this set of participants may have experienced different or more severe consequences so would have supported in understanding what leads some staff to resign. Previously employed participants would have been useful in the systematic review as well as, again, it would have explored whether they left their

employment due to the poor support and what support could be offered to prevent others in resigning.

6.5. Future Research

Areas of future research have been suggested throughout this thesis.

Future research should continue to focus on the JD-R Model to further explore how it relates and explains inpatient aggression within forensic healthcare. Future research can build on the role low resources and high demands have in risk factors to inpatient aggression and after-care to victims. As it was recommended that organisations implement appropriate resources across inpatient aggression from the antecedents to aggression to the support available to staff after incidents, future research will need to assess the worth of these in preventing inpatient aggression and managing the negative affects following an incident.

More research should be conducted to explore the role DP and job satisfaction may have in staff members' perception of their organisation. Significant affects were found in the quantitative work following inpatient aggression and it may

have affected staff member's perception of their organisation in terms of how inpatient aggression occurs and how managers are willing to support the victims in the period immediately after an incident and as they begin to attend work again. These findings were highlighted in both the qualitative strand and systematic review.

Future research should continue to build on the limitations discussed above. Similar limitations were found throughout the research which highlights a need for further understanding to bridge the current gaps.

The methodologies could be improved. In the quantitative work, participants were asked about any physical aggression in the preceding 12 months but their current emotional state and the majority of studies included in the systematic review had the same 12 month timeframe as well. It is important to be aware of the emotional responses immediately or soon after inpatient aggression to understand the extent of psychological consequences and how effective support is in mediating this. However, it is important to be aware of ethical considerations in respect to this method of assessing staff soon after an incident as they may not be able to participate in research

soon after experiencing inpatient aggression. Nonetheless, understanding how and when the negative consequences change over time will allow organisations to better support its employees and know when to implement the recommendations to optimise their staff member's recovery.

Findings of the qualitative and quantitative strands of the thesis conflicted with previous research such as staff members identifying situational risk factors to inpatient aggression and not finding a link between a physical incident and EE of the burnout scale. Researchers need to understand whether the differences are down to the different healthcare settings. Potentially, staff within forensic healthcare may be more accepting of inpatient aggression due to the clients they typically work with and this may reduce the impact of victimisation in terms of negative emotions. Another key point that needs further exploration is the difference between NHS staff members and those who work within private healthcare. Wade (2017) found key differences between these two staffing groups and the potential differences need to be assessed explicitly in relation to inpatient aggression to ensure findings can be generalised to the different settings.

Future research recommendations from the systematic review reflected those made from the other areas of work in this thesis. All but one included study used a cross-sectional design which reduced the quality of results. An experimental study design with pre and post outcome measures with a control group will show clear links to what is effective in this area of research. However, it is important to consider the potential ethical implications of such a study design. There would be challenges in proposing an effective intervention supporting victims, and preventing some participants from accessing this intervention.

Nonetheless, future research should be aware of the limited number of included studies in the systematic review. Only seven quantitative studies satisfied the inclusion criteria and that low number should prompt future researchers to further explore coping strategies staff members use and what organisations can offer as support. The more this is researched, the greater chance staff members can receive appropriate support which will have positive consequences to individuals, patients, and the organisation as whole.

6.6. Conclusion

The overall aim of this thesis was to better understand the various stages of inpatient aggression within private forensic healthcare. Aggression has different stages to it from how it is caused, to the consequences, and the support available afterwards and all these stages are equally important in preventing incidents, understanding aggression, and supporting staff victims of aggression. Therefore, this thesis took each stage to further explore and understand. A critique of a widely used burnout measure was also undertaken to confirm its use in the literature and the remaining chapters of this thesis.

The thesis highlighted the JD-R Model across the chapters. The model explained how high demands and low resources were risk factors to inpatient aggression which affected the health and motivation of victims whilst low resources were available to support and therefore, staff were not appropriately supported. The negative consequences to inpatient aggression found in the quantitative part could lend support in explaining why some findings were observed in the other chapters whilst using the JD-R Model. This is because a consequence of aggression is critique of the organisation due to the health and motivational

pathways and may explain why participants were critical of their senior management in exploring risk factors and support.

Overall, the thesis highlighted the prevalence and consequence to inpatient aggression as it reduced job satisfaction and led to DP. It further utilised the JD-R Model in explaining the role high job demands and low resources can have in inpatient aggression. Both of these were seen as risk factors for aggression whilst low resources meant staff members did not utilise or feel supported by management. Recommendations were made for improving the resources organisations have which would reduce incidents of aggression and provide support to mediate the health and motivational consequences of aggression.

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Appendices

Appendix 1: Supporting Evidence

1.0 Communication

1.1 Staff to patient Communication

Participant One (19): Let me start with staff, where we come from in Africa, we have a harsh voice and that contributes a lot yeah so most patients think maybe you're shouting*… Yes the tone of voice can cause aggression, it can lead to aggression*

Participant One (129): *But you can't just say to a patient 'no, I can't do this'. No is a trigger. Even a normal human being if you ask me something and say no* and say no I'm not giving it to you without a reason, you will get upset

Participant Two (4): *I find if staff are sort of aware of their, maybe they might speak in an aggressive way, they're not being aggressive but it's just the way they speak*

Participant Two (6): *it escalates to the next step due to the communication of the staff. I think that sometimes their interpretation of the same words but differently*

Participant Two (25): *It's just culture, they are coming across a bit aggressive when they are not*

Participant Three (16): *not enough information is provided to say that, sit down, let me explain to you what section 37 means, how it will apply to you, how it refers to a professional making statements or applying treatments or applying conditions where you can get leave. So, if all these things is done, medically in a more informative state, in a more engaging manner and not just say 'you're there, I cannot' as normal as possible, we need to treat these people as normal as possible unless proven otherwise, you get the best out.*

Participant Three (29): *if you answer back in that same tone of voice, what happens you get reaction and the reaction may not be conducive for a good relationship.*

Participant Three (157): *I have a patient now, and when he speaks, the I see all the staff shaking and I ask them, I put them to task, what did he just say? But you're shaking your head, you're making him feel, we know his needs and how can we meet it if we never understand it.*

Participant Four (13): It can work both ways in terms of how you speak to them as well. You know in terms of obviously you know you can respond to them because like I say when they start banging on

the door, you can't, no point, you can see them, you can't just fob them off

Participant Four (28): *Like I say it's how you come across and when, with staff it's a cultural thing so tone obviously the tone if they're shouting you're not going to be shouting back at the same level because you'll just be creating that escalation so like I say if you speak to them in a sort of calm approachable you know clear, it does have some you know obviously with respect.*

Participant Four (37): *With example, like, I've heard it from one particular patient you know the voice thing. With experience working in different settings, again the way someone may come across, somehow they've been used to speaking to the patients in the past so like to some patients they see it as 'well why are you giving me attitude like this?' you know, 'why you know am I being spoken to like this?'*

Participant Four (54): *You have like an inexperienced staff or agency, then obviously they say to the patient when they ask for something 'I don't know' or that can cause you can see a bit of you know some sort of aggression in the patient behaviour*

Participant Four (84): *If a patient asks and you're not as sure, you just obviously, you know don't make up something. If you don't know you will go and ask someone a bit more senior, you know, the nurse in charge or someone who will know or try and find out the answer*, *you know so, they don't want to be fobbed off or they don't wanna hear first day you're unsure of something but you're just giving it for the sake of it and it happens to be wrong and there'll be repercussions*

Participant Five (15): *At the same time, I think one of the major things that causes their problems on the ward, if you need to tell someone you'll do something then make sure you do it otherwise don't tell him, tell him I won't be able to do it, I'll do it when I'm ready to do it.*

Participant Five (22): *Yes timeframe, if I would do it then I would do it at this point of time. Don't give them times either, if you tell them you'll do it at two o'clock then make sure you do it at two o'clock. But the best option to tell them is 'listen yea, we will discuss with the team and we will come and see you later and hopefully we will do it' so that way it is in the middle of whether it will be done or not that's another thing that makes them causes frustration*

Participant Five (33): *Emergencies happen on the ward so they can't do it. In my experience I always tell people, don't promise. Even if they have their leave status don't say 'oh yea don't worry, you'll be going out soon'.*

Participant Five (36): *The best thing to say is 'listen, we will look into it and hopefully we will get it sorted out'.*

Participant Five (45): *The way you approach people, the way you talk to them because most of the people are grown up people and it's the way you come and communicate to them, it's very, what can I say, you have to know the way to talk to them like I said most of them are adults, you can't just impose things on them, you have to respect them at least*

Participant Five (59): *you have to be precise and make sure they know exactly what you are talking about because sometimes you get them confused. You tell them one thing and they will think something else*

Participant Five (132): *How to talk to somebody, how to approach somebody, right time to say things and the right times not to say things and I think that's the biggest part, if somebody wanted to get training, that would be the biggest part*

Participant Five (138): *how to say it, and how when not to say it as well. Because sometimes you think you are comforting somebody but it's taken a completely different way and you need to watch the body language of the patient as well when you talk to them and see what they actually need at that point in time.*

Participant Five (149): *If you are short staffed, it is very difficult to organise all, to get everything in place at the right time. But the most important thing if you can't do this, is to pre-empt things, I always tell people to pre-empt. If you know something isn't going to happen within that time, plan early. Then you can go to them and say 'we are not going to have lunch at 12 o'clock because something happened. We will still have lunch but it won't be at 12 o'clock because something happened' but if you communicate to them properly then I believe they will understand.*

Participant Five (296): *You might be talking to them and it's all fine and then someone else turns up and it's all just kicked off, do you understand? It's a question about approach*

Participant Five (308): *We say the culture here is that people tend to talk in a slow, not slow manner, slow and quiet manner and where we come from, we have high pitched voice but it's different. It's not*

that you are arguing with someone, it's just how you come across but I always say you can adapt, adapt and learn

Participant Five (317): *You might see someone in the morning and say morning and they don't respond, just leave them for a bit, maybe they were thinking about something. Don't keep saying morning, morning, morning because he will get upset. So that sort of thing, you have to know your patient.*

Participant Six (25): *Sometimes even your tone of your voice it makes a big difference. You can use the same line but the tone of your voice of how you speak can make it complete different. And obviously the patient can take it very offensively. It blows out of proportion because of the tone of voice*

Participant Six (32): *Because obviously we've all got different backgrounds and different ways of speaking and then when we do speak to other people our tone sometimes they don't recognise that they're shouting or screaming at that point.*

Staff to Staff Communication

Participant One (94): *Sometimes people talk in their own language. It happens a lot, it's a trigger.*

Participant One (143): *I was called and don't forget we work under the instruction of the nurses. So if they ask you to carry out something, to do something, you have no obligation to say no… I never knew the guy was already escalated*

Participant One (174): *the patient was already having a bad day because they told him he lost his apartment at his CPA and because if you're doing his one to one, at least they should have handed over to you 'this is what happened at the CPA, let's be careful'. So, all they need to do, you don't have to confront the patient, that's why you have the superiors. You go to the nurse in charge, you get more people for more protection. It could have been avoided*

Participant Five (223): *the doctor will come in and tell the patient something like leave so you can go out but I won't communicate it to the team, so the patient will come and say 'oh I've got leave now' and staff will be thinking 'when did that happen?'… then the arguments start… if you communicate something to the patient, make sure the team knows or communicate to the team first then you tell the patient. Either way it doesn't matter, you can communicate to the patient first I spoke to this guy, I have given him leave and I will put it on the system. It makes sense though. But sometimes aggression comes from that.*

Participant Five (313): *Because once you know the triggers, once you know the patient, most of the time you get them in the best light because if you know them, it's a question of how you interact with them. One day you might joke with them and they take it, the next day you joke with them and it's completely opposite*

2.0 Ward Routine and Rules

Participant One (99): *I think the major problem we have in this organisation is inconsistency. So, when you have a consistent routine or rules then you look after your staff, I think that are not helpful.*

Interviewer: What is inconsistent?

Participant One: Everything. Today they will tell you one thing then tomorrow they will tell you 'don't worry about it'.

Interviewer: Do they do that with patients too?

Participant One: Exactly, it's like confusing the patient

Participant Two (11): *it will be out of staff hands, it will be a different department, like money. Let's say, maybe, parcels that come and have to be cleared. Other people can add to it to get them to be upset*

Participant Three (70): *If it is not done continually with staff, the patient will start saying 'when he is there, this is done and when the other side is done, they don't care, they lock themselves in the office'.*

Participant Four (4): *They have their, their programme they know that everyday what time their fresh air, what time their medication so when when they don't get this time they will see them their aggression level will start so and these patients they no, they can't expect to be waiting 5 minutes because you tell to wait they will again, they will just escalate.*

Participant Five (241): *they need to be consistent with the staff between, teams, one team or another. That's another major problem we have on the ward, one staff will do something today and another staff will do something different another day. That gets them confused then they are saying 'oh we did this yesterday, why you telling me today?' it creates aggression, it is a big factor as well in patients getting aggressive or whatever you call it angry and all that… it creates animosity as well, and it creates, what can I say, animosity between the staff as well, between the opposite teams.*

Participant Six (53): *A patient makes that comment 'why do we have so much agency, they're not familiarized' and they don't like it they actually do express this out*

Participant Six (61): *when there's a lot of changes and when there's not you know familiar faces around them or familiar routine around them because a different team will come in and they will set up a different ways of you know dealing with situations*

Participant Six (76): *one team will come in with that rule you know you should be doing this and you come back in a couple days times. Or the same thing they could be asking you 'we were told we could be having this at any time' and no, this is the time where we have said this and this is what is actually in place and we are trying our best to follow it and this is how it should be. And you can obviously get in there it can go into a different direction completely by not setting the same rules and a continuation.*

Participant Six (86): *it's just a matter of, some staff just sort of let go in the sense of when I say let go, they can't be arsed with this okay. It's like we want the rules there but we can bend the rules.*
Interviewer: *So staff bend the rules?*
Participant Six: *Yes, they break the rules and it just goes pear shaped all over the place*

Participant Six (96): *It's difficult to try to understand why, you continuously ask yourself that question why? When you know something is supposed to be like that then why they are not doing it like that why they are bending the rules when it suits them and it's all going pear shaped*

Participant Six (102): *So if you've got a solid foundation obviously then it come off that it was good and it would actually go well. But when you don't have anything solid you just you're just walking in the air it's all over the place for management and staff then patients.*

3.0 Staff Knowledge

Participant One (56): *It's got to do with training because if we have basic training of what the job is all about then I think we will be more competent at the job and with the patients… It contributes a lot, especially, if you know what you're doing what the job and you know what it's all about, if you have the basic training to carry out and do things and if you know what your job definition is then I think it will help.*

Participant One (124): *They lack skills. It's got to do with again, how the staff treat the patient. So sometimes, like what I said earlier, it's a common sense. Your job is all about common sense.*

Participant One (156): *The management, they need to step up in terms of training and the kind of people they employ. If you want the cheap articles, you expect it in China. If you want Gucci, you go for Gucci and you pay for Gucci. At the end of the day my concerns is why should agency be paid higher when we do all the job.*

Participant Three (3): *Being a new staff on the ward and you do not have the right level of induction you tend to be not sure of what you're doing and then say for instance a patient asks them a question you take the responsibility of not being inducted properly.*

Participant Three (186): *I think managers should be focusing in getting the people who are able to do this job competently, or training the people do to the job competently and they must be able to invest. You don't want to invest in giving perhaps as free food or whatever. You invest in giving people time to learn reasons*

Participant Four (54): *you have like an inexperienced staff or agency, then obviously they say to the patient when they ask for something 'I don't know' or that can cause you can see a bit of, you*

know some sort of aggression in the patient behaviour so yeah, I'd say the type of staff you get who haven't worked on the ward.

Participant Four (84): *If a patient asks and you're not as sure, you just obviously, you know don't make up something. If you don't know you will go and ask someone a bit more senior, you know, the nurse in charge or someone who will know or try and find out the answer.*

Participant Four (88): *you know so, they don't want to be fobbed off or they don't wanna hear first day you're unsure of something but you're just giving it for the sake of it and it happens to be wrong and there'll be repercussions*

Participant Five (114): *I don't think so, some staff do but it's just, but maybe some staff are aware but are not, maybe they've not got proper training as well I'll bring that into it. So maybe, it's a way they come across to the patient because they haven't got the proper training because if you learn. Most people learn as they go along, they see things, they do it this way, if it doesn't work, they do it differently, some staff do it but some staff don't. I think it's all down to training, I think they need to be more forward with it but some staff don't. I think that's about what it is though.*

Participant Five (125): *you see so many people making mistakes, the slightest of things they say, they shouldn't be saying because now it's completely different nowadays, before you could say what you want but now it's completely different. You might not take offence to somebody but somebody takes offence, you might just call yourself 'oh I just said' but no you shouldn't and that's where the training should come, how to talk to somebody, how to approach somebody, right time to say things and the right times not to say things and I think that's the biggest part, if somebody wanted to get training, that would be the biggest part.*

Participant Five (179): *On the staffing side, there is always people you need to carry along and some people can do things without being told but at the end of the day it is the planning*

4.0 Staff Attitude

4.1 Ward Staff Attitude

Participant Three (10): *the attitude of the staff to the patient will bring out the best or bring out the worst*

Participant Three (22): *we need to treat these people as normal as possible unless proven otherwise, you get the best out of them.*

Participant Three (40): *you don't dress properly then you don't get the respect of the people who are suffering and they think 'why am I talking to you?' And if you answer back in a tone of 'I am employed, I am a nurse, I know it better' you have a conflict we have to put ourselves in their place and you can only do that from experience.*

Participant Three (52): *when you work in a general hospital, the things we do must be respectful, must be with dignity, must be purposeful, must be involving. When you look at these same principles of caring in a psychiatric hospital, something is missing and this is what we need to bridge and the bridge is respect.*

Participant Three (130): *People in a psychiatric profession tend to treat people in a much rougher, not in a more you know like I said, if you treat me like a schizophrenic patient as though I came in limping with a broken leg, the same, I will be engaging, cooperative, and I wouldn't be thumping you unless you thumping me. And if you don't you have to remember that a sectioning is a stigma and it carries you for a long time.*

Participant Four (39): *Somehow they've been used to speaking to the patients in the past so like to some patients they see it as 'well why are you giving me attitude like this?' you know, 'why you know am I being spoken to like this?'*

Participant Five (15): *At the same time, I think one of the major things that causes their problems on the ward, if you need to tell someone you'll do something then make sure you do it otherwise don't tell him, tell him I won't be able to do it, I'll do it when I'm ready to do it.*

Participant Five (49): *you can't impose things on them, you have to respect them at least*

Participant Five (70): *And another thing, as I said bad news that has come from the family… need to support them, comfort them and most of the time, sometimes we don't do it. People think 'oh when they get the bad news just leave them on one side so they can cope' and sometimes they can't, they need someone to talk to them, to support them, it's not a question of comforting them, it's supporting them in anyway shape or form.*

Participant Five (78): *Sometimes when they get a message, they want to make a phone call and if you can facilitate the phone call it could be a help… But most of the time we tend to say 'oh he's always like that, let's just leave him' but sometimes he needs the support.*

Participant Five (88): *it's giving them comfort, I'm really sorry about that, what can we do to support you but sometimes we don't do it. Sometimes we say sorry about this and they just go away and they'll be thinking this person don't care I've got this bad news and they don't even acknowledge and this is bad news, what can they do for me? It happens. Maybe it's not fault of our own but the way different people handle things as well, the staff.*

Participant Five (99): *some staff maybe they will pick and choose people who they can actually relate to. Sometimes the patients have been so difficult on the ward, they take it in which it shouldn't be, they should be professional about it, no matter who comes along… you are here to basically look after them and support them… when a patient comes, they say 'oh he's always like that, just ignore him' but they shouldn't. If you work in a professional manner… regardless of what he's done a day or 2 weeks ago 3 weeks ago, just take it as a professional, a professional boundary, you should take that in as you work as a professional.*

Participant Five (253): *Because sometimes, not all staff, sometimes, they put pressure on staff, they just succumb, probably not their fault but they just succumbed, I just want to have a quiet shift, let's just do what he wants. But once you do that, it puts pressure on the*

other team to do that. I think that's another thing that causes problems on the ward.

it's not necessarily that staff are doing it deliberately but sometimes, they don't bring it over as quickly as possible. If it's been authorised all you have to do is bring him to sign the form and get 2-3 people to sign the form and send it over to finance but sometimes, it's not done on time.

4.2 Senior Staff Attitude

Participant One (184): *Because they do nothing, they sit at computer all day. Nobody to support you, nobody to tell you what to do, it's only the experienced one and they are abusing the experienced staff on a daily basis.*

Participant Three (120): *So it is a little bit of managerial bottlenecks where you can actually be a good person to help staff grow, to work the system, to deliver high quality of care but you do not have the back up because there is here is we want to be popular, we want to be the best but at what cost do you want to be the best?*

Participant Three (162): *he wants to know the full implications of section 37, what it meant for him and what it meant for you to apply it and how he will benefit and how we will execute the directive.*

What did I get? Oh we had a review and told him all this. He doesn't know anything. I said show me a paper where you simplified it and given it to him.

Participant Three (197): *I talk too much to disengage an aggressive outburst, I talk too much to make a person simmer down and de-escalate but then you before you sort of say to me 'yes, you're doing well' it puts me down to say 'you spend too much of your time with them' that's what I get from people who I work with. because I don't have nothing to lose, I fight back and say 'if we spend a little time with this people, more than how we spend time amongst ourselves for private things and not taking time to give the people the care we are paid for and you will see a difference'*

Participant Three (211): *Presentation, you're own presentation. We shouldn't be coming in here as though it is a factory, this is a professional environment… I mean god forbid me, that's the way the company and the profession accepts you to come in and you get the results from the people who you are caring for then you should wake up*

Participant Three (221): *they might have the competence but cannot execute it in a way that helps people because there are a lot of*

restriction, in fact if you actually make this work enticing and fun to say

Participant Two (36): *Yes, if you've got a good manager like, say they will come and approach patients on a regular basis, I would say the ward would be generally well controlled and not sort of, patients getting you know, getting off key and something like that. Normally they don't want to speak to us, they want to speak to managers to get more hierarchy and the buck sort of stops there. Yea so when the manager shows a lot of sort of face on the ward basically, you tend to see that the patients are more calmer*

Participant Two (47): *I experience it on my ward and our present manager is kind of, that's where I see now the ward is more settled because the manager is more present on the ward. They don't necessarily go off in their own like office and lock themselves in and stay there all day. Patients like to see the manager on the ward, once the patient has spoken to the manager, the patient is sort of more settled or satisfied with the outcome.*

Participant Five (194): *whoever is in charge, the nurses have to, not necessarily stand their ground but communicate properly and not just sit in the office doing all the paperwork, you need to come out and join… Some of the nurses don't do that I don't think*

Participant Five (209): *If they are just in their office, you have to go knock on the door. Probably leave what you're doing and knock on the door. But if they are in and around you can say 'oh I'm not too sure, can you just go over there please' then it shortens the time between things and you can stay doing what you're doing and it gets better as well.*

Appendix 2: Participant Information Sheet

Title of Study: Impact of inpatient aggression and organizational features on staff within secure forensic settings

Rachel Allen is a Trainee Forensic Psychologist who is doing her Doctorate at the University of Nottingham. She has worked in the hospital as a healthcare worker before, and is currently completing a placement within the psychology department in the unit. She would like to invite you to take part in her research study as it can help us find out new information to make things better for professionals working within secure units.

Before you decide if you want to take part, it would be good if you knew a bit about why this research is being done and what it would involve for you. The researcher will go through the information sheet with you, and answer any questions you have. Please ask the researcher if there is anything that is not clear.

Why is this research being done?

The researcher hopes to find out the impact aggression from patients can have on front line staff in forensic units. She wants to know what negative effects staff may experience after witnessing aggressive patients. These negative effects can have long and short term impact on people so it is important to look into what staff may experience. If we find out what staff go through after experiencing aggression then management and the rest of the team can work with the individual to avoid these short and long term issues. This will in turn lead to better work environments, staff mentality and patient care.

Why have I been invited?

You are being invited to take part because you are either a Registered Mental health Nurse (RMN) or Healthcare Worker (HCW) and have regular contact with the patients on the wards. We are inviting all RMNs and HCWs from The North London Clinic to take part.

Do I have to take part?

It is up to you to decide whether or not to take part. All participation is voluntary and there will be no consequences to your work if you decide to not take part. If you decide to take part then you will be given this information sheet to keep and you will be asked to sign a consent form.

What will happen to me if I take part?

Taking part will involve completing 4 short questionnaires. It is expected that this will take 30-45 minutes to complete.

Expenses and payments
Participants will not be paid to participate in the study.

What are the possible disadvantages and risks of taking part?
It is not expected that taking part will cause you any harm. It is likely that you have been asked similar questions before.

If the questions cause you any distress, support and reassurance is offered at the end of the study by way of debrief. A list of helpful support services will also be provided.

What are the possible benefits of taking part?
The study will not help you personally but the information we get from this study may help others by identifying what staff experience after an aggressive incident by patients. In the long-term this could lead to the development of better support to staff after such incidents.

What happens when the research study stops?
There will be no changes to your work schedule for participating in this study.

What if there is a problem?
If you have a concern about any aspect of this study, you should direct any requests for information, complaints and queries to the researcher or supervisor.

Will my taking part in the study be kept confidential?
We will follow ethical and legal practice and all information about you will be handled in confidence.
If you join the study, the data collected for the study will be looked at by authorised persons from the University of Nottingham who are organising the research. They may also be looked at by authorised people to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty.

All information which is collected about you during the course of the research will be kept strictly confidential, stored in a secure and locked office, and on a password protected database. Any information about you which leaves the hospital unit will have your name removed meaning all questionnaires will be anonymous.

Research data will be kept securely for 7 years. After this time your data will be disposed of securely. During this time all precautions will be taken by all those involved to maintain your confidentiality, only

members of the research team will have access to your personal data.

What will happen if I don't want to carry on with the study?
Your participation is voluntary and you are free to withdraw at any time, without giving any reason. If you withdraw then the information collected so far may not be able to be erased and this information may still be used in the project analysis.

Involvement of the General Practitioner (GP)
Your GP will not be involved in the study.

What will happen to the results of the research study?
The results will be written up as part of a research chapter in a Forensic Psychology Doctorate Thesis. This will be written under the standards of the University of Nottingham. You will not be identified in any of the published material. If you would like to be sent a summary of what was found, then you can tick a little box on the CONSENT FORM.

Who is organising and funding the research?
This research is being organised by the University of Nottingham and is being funded by the University of Nottingham.

Who has reviewed the study?
All research is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by The University of Nottingham Research Ethics Committee. The North London Clinic have also looked at the study and said that it is ok.

Further information and contact details
If you would like to talk to the researcher about this study then you can contact her on the following email address:

Rachel Allen
Trainee Forensic Psychologist
University of Nottingham, UK
Email: msxra14@nottingham.ac.uk; Rachel.allen@partnershipsincare.co.uk

This research is being supervised by Dr Shihning Chou. Her contact details are as follows:

Dr Shihning Chou
Assistant Professor & Forensic Psychologist
Director of MSc Forensic and Criminological Psychology & Year 1 D.Foren.Psy.
Centre for Forensic and Family Psychology, Division of Psychiatry & Applied Psychology, School of Medicine, University of Nottingham

Floor B, Yang Fujia Building, Jubilee Campus, Wollaton Road, Nottingham, NG8 1BB, UK
Email: shihning.chou@nottingham.ac.uk

Appendix 3: Consent Form

Title of Project: Impact of inpatient aggression and organizational features on staff within secure forensic settings

Name of Researchers: Rachel Allen, supervised by Dr Shihning Chou

Please initial the boxes

1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to think about all the information, ask questions and have had these answered enough to make me happy. ☐

2. I understand that I do not have to say yes and take part in this study if I don't want to: my participation is voluntary. I understand that I am free to change my mind and withdraw at any time without saying why if I don't want to, without any consequences. ☐

3. I understand that relevant data collected during the study may be looked at by people from the University of Nottingham or from regulatory authorities (like the people who said this project was OK, the Research Ethics Committee), where it is relevant to my taking part in this research.
I think that this is OK, and give permission for these people to have access to my anonymised data. ☐

4. I agree to take part in the above study. ☐

5. I am willing to be contacted for a follow up interview ☐

Only sign if you want to take part in the study

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of Person taking consent.	Date	Signature

I would like to know about anything that this study finds out ☐

Appendix 4: Debrief Sheet

Title of Project: Impact of inpatient aggression and organizational features on staff within secure forensic settings

Name of Researchers: Rachel Allen, supervised by Dr Shihning Chou

Thank you for participating in this study.

The researchers were interested to see what factors impact on staff levels of burnout and job satisfaction. The factors we are interested in are the experience of patient aggression and staff experience of organizational features.

The following methods were used to measure the outcomes and factors:

Burnout – This was measured using the Maslach Burnout Inventory. Burnout has three subscales: 1) Emotional exhaustion – this relates to the level of exhaustion you experience due to work. 2) Depersonalization – this subscale relates to insensitive behaviours directed at clients from a worker and 3) reduced personal accomplishment – this relates to negative evaluations of yourself.
Anxiety – This was measured using the State-Trait Anxiety Inventory. There are two types of anxiety: State anxiety (relating to fear, nervousness and discomfort experienced during negative situations) and Trait anxiety (a person's disposition to experience stress, worry and discomfort).
Job satisfaction – This was measured with the Warr-Cook-Wall job satisfaction scale, which looked into various areas which may influence an individual's level of satisfaction with their job.

The researchers are expecting levels of burnout, job dissatisfaction and patient dissatisfaction to be higher if the staff member has greater experience with patient aggression and sees the organization as having poor features.

Once again, thank you for participating in the study outlined above.

Appendix 5: Experience of Inpatient Aggression Questionnaire

1. Have you been a victim to physical aggression by a patient within your current workplace? (If no, please proceed to next page)

Yes
No

2. If yes, how many times have you been victim to verbal aggression by a patient in the last 12 months?

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3. Think of the most severe incident you have been victim to. Please describe what happened.

4. Thinking about that most severe incident, how did it make you feel?

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5. How long did you feel like this?

Less than 24 hours
2-4 days
5-7 days
Longer than 7 days

6. Have you been a victim to verbal aggression by a patient within your current workplace? (If no, please proceed to next page)

Yes
No

7. If yes, how many times have you been victim to verbal aggression by a patient in the last 12 months?

_____

8. Think of the most severe incident you have been victim to. Please describe what happened.

9. Thinking about that most severe incident, how did it make you feel?

10. How long did you feel like this?

Less than 24 hours
2-4 days
5-7 days
Longer than 7 days

Appendix 6: MBI

Questions	Never	A few times per year	Once a month	A few times per month	Once a week	A few times per week	Every day
SECTION A	**0**	**1**	**2**	**3**	**4**	**5**	**6**
I feel emotionally drained by my work.							
Working with people all day long requires a great deal of effort.							
I feel like my work is breaking me down.							
I feel frustrated by my work.							
I feel I work too hard at my job.							
It stresses me too much to work in direct contact with people.							
I feel like I'm at the end of my rope.							
Total score – SECTION A							

Questions	Never	A few times per year	Once a month	A few times per month	Once a week	A few times per week	Every day
SECTION B	**0**	**1**	**2**	**3**	**4**	**5**	**6**
I feel I look after certain patients/clients impersonally, as if they are objects.							
I feel tired when I get up in the morning and have to face another day at work.							
I have the impression that my patients/clients make me responsible for some of their problems.							
I am at the end of my patience at the end of my work day.							
I really don't care about what happens to some of my patients/clients.							
I have become more insensitive to people since I've been working.							
I'm afraid that this job is making me uncaring.							
Total score – SECTION B							

Questions	Never	A few times per year	Once a month	A few times per month	Once a week	A few times per week	Every day
SECTION C	**0**	**1**	**2**	**3**	**4**	**5**	**6**
I accomplish many worthwhile things in this job.							
I feel full of energy.							
I am easily able to understand what my patients/clients feel.							
I look after my patients'/clients' problems very effectively.							
In my work, I handle emotional problems very calmly.							
Through my work, I feel that I have a positive influence on people.							
I am easily able to create a relaxed atmosphere with my patients/clients.							
I feel refreshed when I have been close to my patients/clients at work.							
Total score – SECTION C							

Appendix 7: State-Trait Anxiety Inventory

	Not at all	Somewhat	Moderately so	Very much so
I feel Calm	1	2	3	4
I feel secure	1	2	3	4
I am tense	1	2	3	4
I feel strained	1	2	3	4
I feel at ease	1	2	3	4
I feel upset	1	2	3	4
I am presently worrying over possible misfortunes	1	2	3	4
I feel satisfied	1	2	3	4
I feel frightened	1	2	3	4
I feel comfortable	1	2	3	4
I feel self-confident	1	2	3	4
I feel nervous	1	2	3	4
I am jittery	1	2	3	4
I feel indecisive	1	2	3	4
I am relaxed	1	2	3	4
I feel content	1	2	3	4
I am worried	1	2	3	4
I feel confused	1	2	3	4
I feel steady	1	2	3	4
I feel pleased	1	2	3	4

	Almost never	Sometimes	Often	Almost always
I feel pleasant	1	2	3	4
I feel nervous and restless	1	2	3	4
I feel satisfied	1	2	3	4
I wish I could be as happy as others seem to be	1	2	3	4
I feel like a failure	1	2	3	4
I feel rested	1	2	3	4
I am 'calm, cool, and collected'	1	2	3	4
I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
I worry too much over something that really doesn't matter	1	2	3	4
I am happy	1	2	3	4
I have disturbing thoughts	1	2	3	4
I lack self-confidence	1	2	3	4
I feel secure	1	2	3	4
I make decisions easily	1	2	3	4
I feel inadequate	1	2	3	4
I am content	1	2	3	4
Some unimportant thoughts runs through my mind and it bothers me	1	2	3	4
I take disappointments so keenly that I can't put them out of my mind	1	2	3	4

I am a steady person	1	2	3	4
I get in a sense of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

Appendix 8: Warr-Cook-Wall Job Satisfaction Scale

1. Extremely dissatisfied
2. Very dissatisfied
3. Somewhat dissatisfied
4. Neither dissatisfied or satisfied
5. Somewhat satisfied
6. Very satisfied
7. Extremely satisfied

Statement	**Scale of satisfaction**						
Physical working conditions	1	2	3	4	5	6	7
Freedom to choose your own method of working	1	2	3	4	5	6	7
Your colleagues and fellow workers	1	2	3	4	5	6	7
Recognition you get for your good work	1	2	3	4	5	6	7
Amount of responsibility you are given	1	2	3	4	5	6	7
Your rate of pay	1	2	3	4	5	6	7
Opportunity to use your ability	1	2	3	4	5	6	7
Your hours of work	1	2	3	4	5	6	7
Amount of variety in your job	1	2	3	4	5	6	7
Taking everything into consideration, how do you feel about your job as a whole?"	1	2	3	4	5	6	7

Appendix 9: Inclusion/Exclusion Form

Inclusion criteria	**Has it been met?**	**Comment**
Study design Is the study any of the following? Randomised Control Trial Cohort Case control Cross-sectional Case series	Yes Unclear Discuss No	
Population Are participants: Aged 18 and over? Hospital staff? Work in psychiatric settings?	Yes Unclear Discuss No	
Intervention Is there any intervention to overcome inpatient aggression? Are coping strategies discussed in terms of inpatient aggression?	Yes Unclear Discuss No	
Outcome Has any of the following been measured?	Yes Unclear	

Burnout Stress Anxiety Emotional well-being Psychological distress	Discuss No	

Appendix 10: Search Syntax

	Term	Hits
1	Mental health nurs*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2793
2	psychiatric nurs*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	4935
3	psychiatric hospital staff.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	1146
4	psychiatric unit staff.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	17
5	mental health hospital staff.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	3
6	staff.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	71189
7	registered nurs*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	4301
8	RGN.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	11
9	RMN.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	18
10	nurs* assist*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	822
11	car* assist*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	713
12	support* assist*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	172
13	support* work*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	1869
14	help* work*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	400
15	car* staff.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2509
16	car* work*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	6774

17	mental health work*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2328
18	psychiatric staff.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	327
19	Psycholog*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	627899
20	Occupational Therap*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	10699
21	Social Work*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	42636
22	Doctor.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	13021
23	Manager.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	8713
24	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23	761207
25	Clinical supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2234
26	supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	25976
27	professional supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	7640
28	peer supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	220
29	group supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	627
30	team supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	55
31	one to one supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	33
32	reflect* supervision.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	91
33	reflect* practice.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	1962
34	reflect* group.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	144

35	reflect* work*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	187
36	psychology*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	309477
37	counselling.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	10723
38	counselling psychology.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	586
39	cognitive behavio$ral therap*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	13863
40	CBT.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	11812
41	counselling therap*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	30
42	psychotherapy*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	127801
43	peer support.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	3621
44	social support.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	56735
45	peer relations.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	16295
46	support group.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	3686
47	group counselling.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	156
48	intervention.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	234118
49	manag*support.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	0
50	manag*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	307365
51	organization* support.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2272
52	organisation* support.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	208

53	debrief*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2844
54	25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53	975772
55	Burnout.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	11670
56	occupation* stress*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	19959
57	professional stress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	126
58	job stress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2762
59	work stress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2276
60	Stress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	219116
61	depersonal*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	4038
62	emotion* exhaustion*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	3085
63	person* accomplish*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	1492
64	Fatig*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	25510
65	Emotion* stress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2053
66	Emotion* distress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	5924
67	wellbeing.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	10212
68	Psycholog* stress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	10911
69	Psycholog* distress.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	16587
70	Anxiety.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	202387

71	Emotion* pain.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	710
72	Psycholog* issue.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	89
73	Negative issue.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	11
74	Negative impact.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	8102
75	55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74	431214
76	Patient aggress*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	153
77	aggress* patient.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	52
78	work* agress*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	1
79	aggressive behavio$r.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	35151
80	physical* violence.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2407
81	Physical* abuse.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	9609
82	workplace abuse.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	36
83	workplace violence.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	983
84	verbal violence.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	153
85	verbal abuse.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	1010
86	physical aggress*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	3600
87	verbal aggress*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	1712
88	76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or 87	49201

89	24 and 54 and 75 and 88	770

Appendix 11: Quality Assessment Form

Selection Bias

1) Are the individuals selected to participate in the study likely to be representative of the target population?
    1. Yes
    2. Partial
    3. No
    4. No information

2) What percentage of selected individuals agreed to participate?
    1. 80-100% agreement
    2. 80-79% agreement
    3. Less than 60% agreement
    4. Not applicable
    5. No information

3) Were intervention groups clearly defined?
    1. Yes
    2. Partial
    3. No
    4. No information
    5. Not applicable

4) Were there important differences between the groups prior to the intervention
    1. Yes
    2. No
    3. Partial
    4. No information
    5. Not applicable

    The following are examples of confounders:
    a. Race
    b. Sex
    c. Marital status/family
    d. Age
    e. SES
    f. Education
    g. Health Status
    h. Pre-intervention score on outcome measure

5) Were appropriate confounding variables controlled for?

1. Yes
2. Partial
3. No
4. No information

Risk of bias: Low Moderate High

Study design

6) Indicate the study design
   1. Randomised controlled trial
   2. Controlled clinical trial
   3. Cohort analytic (one group pre + post)
   4. Case-control
   5. Cohort (one group pre + post)
   6. Interrupted time series
   7. Other specify _____Cross sectional_____
   8. No information

7) Was the study described as randomised? If NO, go to question 10.
   No Yes

8) If Yes, was the method of randomisation described?
   No Yes

9) If Yes, was the method appropriate
   No Yes

Risk of bias: Low Moderate High

Blinding

10) Was (were) the outcome assessors aware of the intervention or exposure status of participants?
   1. Yes
   2. Partial
   3. No
   4. No information
   5. Not applicable

11) Were the study participants aware of the research question?
   1. Yes
   2. Partial
   3. No

4. No information

12) Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?
   1. Yes
   2. Partial
   3. No
   4. No information
   5. Not applicable

13) Could the outcome measure have been influenced by knowledge of the intervention?
   1. Yes
   2. Partial
   3. No
   4. No information
   5. Not applicable

Risk of bias: Low Moderate High

Data Collection Methods

14) Were data collection tools shown to be valid?
   1. Yes
   2. Partial
   3. No
   4. No information

15) Were data collection tools shown to be reliable?
   1. Yes
   2. Partial
   3. No
   4. No information

16) Were any systematic errors in measurement of the outcome related to intervention received?
   1. Yes
   2. Partial
   3. No
   4. No information

17) Were the assessments carried out consistently across all participants (consider both the assessment methods and the setting)?

1. Yes
2. Partial
3. No
4. No information

Risk of bias: Low Moderate High

Withdrawals and Drop-Outs

18) Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?
1. Yes
2. Partial
3. No
4. No information
5. Not applicable (ie one time survey or interviews)

19) Indicate the percentage of participants completing the study. (if the percentage differs by groups, record the lowest)
1. 80-100%
2. 60-79%
3. Less than 60%
4. No information
5. Not applicable (ie retrospective case-control)

20) Were participants excluded due to missing data on intervention status?
1. Yes
2. Partial
3. No
4. No information
5. Not applicable

21) Were participants excluded due to missing data on other variables needed for the analysis?
1. Yes
2. Partial
3. No
4. No information
5. Not applicable

Risk of bias: Low Moderate High

Intervention Integrity

22) Was the consistency of the intervention measured?
1. Yes
2. Partial
3. No
4. No information
5. Not applicable

23) Is it likely that subjects received an unintended intervention (contamination or co-intervention) that may influence the results?
1. Yes
2. Partial
3. No
4. No information
5. Not applicable

24) Were important co-interventions balanced across intervention groups?
1. Yes
2. Partial
3. No
4. No information
5. Not applicable

25) Did study participants adhere to the assigned intervention regimen?
1. Yes
2. Partial
3. No
4. No information
5. Not applicable

Risk of bias: Low Moderate High-not applicable

Analyses

26) Indicate the unit of allocation

Community Organisation/institution Practice/office Individual

27) Indicate the unit of analysis

Community Organisation/institution Practice/office Individual

28) Are the statistical methods appropriate for the study design?
1. Yes
2. No
3. No information

29) Is the analysis performed by intervention allocation status (i.e. intention to treat) rather than the actual intervention received?
1. Yes
2. No
3. No information
4. Not applicable

Risk of bias: Low Moderate High