PERCEPTIONS OF SOCIAL CLIMATE AND THEIR INFLUENCE ON AGGRESSION IN FORENSIC INTELLECTUAL DEVELOPMENTAL DISABILITY (IDD) SERVICES

BY

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Abstract

Social climate is defined as a set of features which differentiate a setting from other settings, and which impact upon the people within that environment. The factors found to influence people's views of social climate include the restrictions of the setting, the ward layout, and staff-patient relationships. Chapter 1 introduces the social climate research and highlights gaps in the literature. Chapter 2 presents a systematic review of the literature that has examined perceptions of social climate in forensic/mental health services and its links to aggression. Chapter 3 examines the psychometric properties of the Essen Climate Evaluation Schema (EssenCES; Schalast, Redies, Collins, Stacey, & Howells, 2008), a social climate measure commonly used in the United Kingdom. Chapter 4 examines perceptions of social climate among offenders with Intellectual Developmental Disabilities (IDD; APA, 2013) using an adapted version of the EssenCES, and staff views of working with offenders with IDD via focus groups and an adapted version of the Attitudes To Prisoners scale (ATP; Melvin, Gramling, & Gardner, 1985). The links with aggression are explored. Whilst no significant relationships were found between patient and staff questionnaire ratings and the frequency of aggressive incidents, the staff focus groups highlighted that factors including inadequate staff training, inconsistent working practices, and patients being inappropriately placed in certain environments had an impact upon patient behaviours. Chapter 5 draws together the findings from the previous chapters and explores the implications for research and practice.

Dedication

I dedicate this work to my dad, nan, and granddad, who were the embodiment of the phrase ‘actions speak louder than words’. Thank you for all your love and support, the impact of which I carry with me always.

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Statement of authorship

Chapters 1, 2, and 4 contain material that has been published[1] in the Journal of Trauma, Violence, & Abuse (see Appendix 20). While every effort has been made to avoid repetition, there may still be overlap in some of the background material included.

[1] Chapters 1, 2, and 4 - Robinson, J., Craig, L. A., & Tonkin, M. (2016). Perceptions of social climate and aggressive behavior in forensic services: A systematic review. *Trauma, Violence, & Abuse*, 1-15. doi: 10.1177/1524838016663936

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CHAPTER 1: INTRODUCTION TO THE THESIS

The number of violent incidents within forensic healthcare settings and correctional institutions is a considerable issue in many countries. The Ministry of Justice (2017) reports that between September 2015 to September 2016 there were 25,049 physical assaults which occurred in prisons within England and Wales. This was an increase of 31% on the previous year. Furthermore, the website of the Federal Bureau of Prisons in the United States records that there were approximately 3,100 lower level and 250 serious incidents of inmate-on-inmate assault in their prisons between September 2015 and September 2016. Given the potential consequences on the victims and the organisations in which the incidents occur, these statistics are concerning. Victims may be subject to physical and/or psychological injuries (e.g., anxiety, fear, anger) or even death in the most serious cases. For the perpetrators of the violence, this can have major consequences on their rehabilitation and may lead to a conviction and/or them being moved to another setting altogether. For the staff, this can have an impact on their morale with some being left 'hypervigilant, distrustful, and fearful' (Bowers, et al., 2011, p.158).

Social climate

The term 'social climate' has been defined as the 'environment' of a setting which may impact upon the people who reside or work there (Schalast, Redies, Collins, Stacey, & Howells, 2008). It is believed to comprise various factors including how supportive the setting is perceived to be (e.g., Nesset, Røssberg, Almvik, & Friis, 2009); the opportunities for patients to develop new skills and positive interactions; how safe patients and staff feel from threatened or actual aggression (Tonkin, 2016); and purpose-built wards (Long, Langford, Clay, Craig, & Hollin, 2011b). Research has found a link between perceptions of the social climate and levels of aggression. Lanza, Kayne, Hicks, and Milner (1994) found higher levels of staff support and the fostering of psychiatric patients' autonomy, helped to reduce incidents of aggression. More recently, Fluttert (2010) confirmed that positive patient-staff relationships can help to maintain a positive social climate in forensic mental health settings. Meehan, McIntosh, and Bergen (2006) corroborate that poor quality staff-patient relationships within a high-secure forensic psychiatric unit, together with patient boredom, contributed to aggressive behaviours. Papadopoulos, Bowers, Quirk, and Khanom (2012)

discovered associations between aggressive behaviour and poor staff attitudes. This may indicate that underlying negative attitudes from staff may affect the interactions that staff have with patients thereby contributing to aggressive incidents.

Assessing social climate. The Ward Atmosphere Scale (WAS; Moos & Houts, 1968) is one of the most frequently-used assessments; however, Røssberg and Friis (2003) suggested that some items require revising to reflect cultural changes in secure settings. There are two other assessments, namely the Community-Oriented Programs Environment Scale (COPES; Moos, 1972) and Correctional Institutions Environment Scale (CIES; Moos & Schaefer, 1987) which are both derived from the WAS. The Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008) is a social climate measure which examines three constructs: Patient Cohesion, Experienced Safety, and Therapeutic Hold. Many settings use social climate measures to ascertain how their residents perceive their environment; however, it is not known whether the assessment scores are examined in conjunction with the frequency of aggressive incidents. This may help services identify how settings could be adapted to better meet the needs of their residents and staff in order to reduce the frequency of aggression. Further exploration of these assessments is a focus of this thesis including an in-depth critique of the EssenCES.

Frameworks which focus on the social climate of settings. Organisational frameworks have been developed to enhance staff working practices and aid the rehabilitation of individuals. One such framework is Trauma-Informed Care (TIC; Substance Abuse and Mental Health Services Administration, SAMHSA, 2014), which involves recognising, understanding, and responding to the effects of trauma. The key components of the framework are: acknowledgement of how common trauma is among individuals; understanding how trauma can affect the people who work with victims, such as the staff; and ensuring that such information is appropriately responded to by having the relevant reporting mechanisms within the organisation (SAMHSA, 2014). Williams, Papadopoulou, and Booth (2012) found that 62% of the prisoners who reported being abused as children experienced emotional abuse, 61% had been victims of physical abuse, and 31% experienced sexual abuse. Furthermore, they found that 41% of prisoners had witnessed violence in the home as children. Williams and colleagues state that prisoners who experienced the above abuse, or had a family member convicted of a non-motoring criminal offence, had a higher likelihood

of reconviction in the year after their release when compared to those prisoners who had not had similar experiences. Felitti et al. (1998) found an increase in alcoholism, illicit substance misuse, depression, and suicide attempts among people exposed to adverse childhood experiences. Childhood trauma was common among the respondents, with 27% reporting physical abuse, 25% disclosing sexual abuse, with others having experienced neglect and witnessing violence against their mother. These studies indicate that those working with inmates or people within secure hospital settings should be mindful of how early trauma can lead to problem behaviours in adulthood. Esaki and Larkin (2013) reported there to be a high prevalence of adverse childhood experiences in staff as well. A lack of staff awareness and/or understanding of the effects of trauma on behaviour may inadvertently lead to increased problem behaviours. Sweeney, Clement, Filson, and Kennedy (2016) advised that support for staff is important, and report the potential benefits of TIC to include empowerment of individuals, access to trauma-focused services, and the provision of support that avoids re-traumatisation.

Another initiative is that of Psychologically Informed Planned Environments (PIPEs), which were originally designed to support offenders with personality disorder along their treatment pathway (Bennett, 2014; Brown, 2014; Turley, Payne, & Webster, 2013). The staff who work within PIPEs receive training to help them develop an appreciation of their work from a psychological perspective and contribute to a more supportive environment for everyone within the setting. The quality of the relationships between staff and inmates is a particular focus as these have been found to contribute to a more positive social climate. Shearman (2013) assessed the social climate of a unit before and after the implementation of a PIPE model and the unit was rated more safe and supportive after the introduction of the model (as cited in the Prison Service Journal, March 2015). Furthermore, Turley et al. (2013) conducted a study where offenders' relationships with other offenders and staff improved after the introduction of a PIPE model. Staff reported lower levels of bullying on PIPE wings of the prison and offenders were more supportive and sociable with their fellow inmates. However, there were still reports of threats and/or actual violence between inmates. Turley et al. (2013) cautioned that the extent to which PIPEs can improve the environment and offenders' behaviour is still uncertain. Therefore, further studies are required to assess PIPEs in terms of their effectiveness in reducing aggression, as such models could potentially be implemented in other settings. Given the importance that the environment plays in the rehabilitation of offenders, and the focus that has been brought towards improving it with

initiatives such as those above, ongoing research is pertinent in order to examine the factors which contribute to aggression within secure forensic services so that such issues can be addressed further.

The study population

The Diagnostic and Statistical Manual of Mental Disorders-V (DSM-V; American Psychological Association, 2013) places Intellectual Developmental Disabilities (IDD) under the category of neurodevelopmental disorders. Individuals with an IDD diagnosis usually have deficits in cognitive abilities such as problem-solving, reasoning, and planning, as well as difficulties in adaptive functioning. Such difficulties are deemed to become evident during childhood or adolescence. An individual's cognitive abilities can be measured by such assessments as the Wechsler Adult Intelligence Scale IV (WAIS-IV; Wechsler, 2008), where deficits are indicated by an Intelligence Quotient (IQ) of 70 and below. However, such cognitive assessments should not be the sole measure used during a diagnosis of IDD. Indeed, the DSM-V criteria regarding the severity of an individual's IDD (i.e., mild, moderate, severe, or profound) should be determined by their ability to meet certain daily life skills which come under three domains. The first is *conceptual*, which incorporates skills in reading, writing, language, reasoning, and memory; the second is *social*, which relates to interpersonal communication skills and the ability to make and retain friendships; and the third domain is *practical*, which focuses on personal care, managing money, recreational activities, and work tasks. Evaluation of an individual's adaptive functioning can be conducted through such assessments as the Adaptive Behavior Assessment System II (ABAS II; Harrison & Oakland, 2003) which covers the ten skills domains of: Communication, Community Use, Functional Academics, Home Living, Health and Safety, Leisure, Self-care, Self-direction, Social, and Work. Comorbid conditions to IDD can include such neurological disorders as cerebral palsy and epilepsy, as well as anxiety disorders, Attention Deficit Hyperactivity Disorder (ADHD), and Autistic Spectrum Disorder (ASD).

There are some existing studies of social climate within IDD settings; however, research in this area is generally lacking. Willets, Mooney, and Blagden (2014) examined data from staff and patients within IDD and non-IDD low and medium secure wards. Using the EssenCES they found that patient scores were higher (i.e., more positive) for patients in the IDD services, although there were no significant differences between the IDD and non-

IDD groups. Staff working in non-IDD services rated the social climate more positively than those in the IDD services. This might reflect the complexities of working with this client group, such as communication difficulties and challenging behaviours. Indeed, given the difficulties that such individuals experience in communicating their needs to others, conducting more research into their perceptions of social climate would seem even more important. Wood, Thorpe, Read, Eastwood, and Lindley (2008) conducted a qualitative study with individuals with IDD, asking about their experiences of living within their current setting. The patients stated the need for more open units, with fewer locked doors and a more homely environment. Patients also wanted staff to include them in decisions relating to their care, rather than making decisions for them. Fish and Culshaw's (2005) qualitative study explored the experiences of staff and patients with IDD of aggressive incidents within a medium secure unit. Patients described being frustrated with the locked environment and also felt that staff did not listen to them. Staff members reported that aggression might be caused by the atmosphere of the unit; however, they seemed unaware of how they themselves might contribute towards patient aggression.

Langdon, Swift, and Budd (2006) compared social climate ratings of a low secure and medium secure unit for patients with IDD. Patients gave more positive ratings on the CIES than the staff for some subscales (e.g., support and staff involvement). Langdon et al. (2006) explained that, similar to Fish and Culshaw's (2005) study, staff rating the environment more negatively than the patients may be due to their lack of awareness regarding their own contribution to the social climate. Furthermore, staff may have higher expectations of what they perceive to be a positive atmosphere. The level of security of the units was also found to contribute to patient and staff ratings of social climate, with the low secure unit receiving more positive ratings on some of the CIES subscales than the medium secure unit. This might be, in part, due to the higher level of restrictions on medium secure units.

Bakken, Røssberg, and Friis (2012) examined whether individuals with IDD were able to meaningfully complete the WAS. Their ratings were compared to those of non-IDD individuals. The standard deviation of the WAS subscales scores was found to be higher in the IDD sample, which may indicate that they disagreed on their ratings more than the individuals without IDD. It was highlighted by Bakken et al. (2012) that the patients with IDD may have misinterpreted the meaning of questions, meaning that the results of their study should be treated with caution. Other studies have used the EssenCES when measuring perceptions of social climate with the IDD population; however, their results also indicate

that the suitability of the measure for use with individuals with IDD is unclear (e.g., Quinn, Thomas, & Chester, 2012; Willets et al., 2014). As such, social climate measures would benefit from being adapted for use specifically with the IDD population; however, no such measures have been adapted as yet. The reasons for this will be explored in more detail in Chapter 4.

Aim of thesis

Due to the lack of studies into measuring social climate with patients with IDD, further research is needed given that such individuals are at higher risk of displaying aggression due to emotion management deficits and poor problem-solving abilities (e.g., Gray, Fraser, & Leudar, 1983; Janssen, Schuengel, & Stolk, 2002). Furthermore, patients with IDD often experience communication difficulties which may mean that their views are not always heard. The aim of this study is to examine the perceptions of the environment of offenders with IDD held in secure services and whether these perceptions are associated with levels of aggressive incidents in each setting. In addition, further to the findings of Papadopoulos et al. (2012), where negative staff attitudes were associated with aggressive behaviours, staff views of working with offenders with IDD will be explored through focus groups and questionnaires. The patient and staff questionnaire scores will be analysed using a statistical package to examine any relationship between the scores and the frequency of aggressive incidents in each setting. So, whether lower (negative) ratings are linked to higher levels of aggression, or higher (positive) ratings are linked to lower levels of aggression. The focus groups will help to provide richer information regarding staff experiences working with this client group and highlight any issues which might impact upon the social climate. Lastly, despite a number of measures of social climate being in existence, none have been validated with forensic patients with IDD. As previously discussed, the results of studies which have administered non-adapted social climate measures to such individuals should be treated with caution. For this reason, the current study adapts a social climate measure specifically for forensic patients with IDD and will examine its suitability with the IDD population for future studies.

Summary of chapters

Chapter 2 presents a systematic review of the literature of social climate in secure forensic and/or mental health settings. The review explores perceptions of ward environments and how these may be associated with factors such as treatment outcomes and aggressive

behaviours. In order to answer this question a narrative synthesis of the data from a range of different studies was conducted. The findings of the review are discussed including the implications for services in terms of monitoring and improving the social climate of forensic and/or mental health settings. The amended version of this review has been published in the Journal of Trauma, Violence, & Abuse (Robinson, Craig, & Tonkin, 2016).

Chapter 3 examines the psychometric properties of the EssenCES (Schalast et al., 2008). This measure was selected because it is one of the most recently-developed social climate measures, its three-factor structure has been confirmed, and it has shown good validity and reliability in studies (e.g., Howells et al., 2009). The findings of this critique are discussed in terms of the use of the EssenCES in forensic healthcare and correctional settings. The results reveal that whilst initial studies have confirmed the reliability and validity of the measure it requires validation with a wider range of client groups and service settings.

Chapter 4 presents an empirical research study examining the perceptions of social climate of forensic patients with IDD within different levels of ward security, as well as staff views of working with this client group. These factors are examined as to whether they differ significantly across different levels of security and whether they are linked to the frequency of aggressive incidents. The future utility of the adapted EssenCES with individuals with IDD is also explored. The results show that patient ratings of social climate and staff ratings of working with offenders with IDD became more positive as the security level of the setting decreased. Although these results corroborate those of existing research (e.g., Langdon et al., 2006), they were not statistically significant. There was a significant difference in the frequency of aggressive incidents between the three settings; however, no relationship was found between the patient and staff questionnaire ratings and the frequency of incidents in each setting. The focus groups which explored staff views of working with offenders with IDD highlighted the factors which impacted upon the social climate and patients' levels of aggression. These factors included patients being placed in inappropriate environments, inconsistent working practices, and staff not being sufficiently trained to work with individuals with IDD.

The final chapter brings together the findings from the previous chapters to provide an overview of patient perceptions of social climate and staff views of working with offenders with IDD, and whether these have an influence on the level of aggression within secure forensic settings. The statistical tests did not indicate a relationship between the social climate

and aggressive incidents; however, the focus groups highlighted that factors associated with the social climate could have a detrimental effect on patient behaviours. The findings of the study are discussed in terms of future research into perceptions of social climate within the IDD population and how organisations can contribute towards creating a more positive social climate for their patients and staff.

CHAPTER 2: PERCEPTIONS OF SOCIAL CLIMATE AND AGGRESSIVE BEHAVIOUR IN FORENSIC MENTAL HEALTH SERVICES: A SYSTEMATIC REVIEW

Abstract

Social climate is a combination of features which impact upon the individuals within that particular setting. This systematic review explores perceptions of ward environment in secure forensic and/or mental health services and how these may be associated with aggression. Scoping searches were conducted to ascertain the relevance of the current review. Four electronic databases were utilised as part of the search strategy, together with hand-searching reference lists and contacting experts in the field. Predefined inclusion/exclusion criteria were applied to each study and quality screens were applied to the remaining studies to establish which were of sufficient quality for the review. 23 studies remained after the quality screen. A narrative data synthesis emphasised several factors which contribute to positive social climate, including: staff-patient interactions/relationships, the security level of the unit, patient characteristics, and staff attitudes to patients. Positive social climate was found to have a relationship with the quality of the therapeutic alliance, patients' motivation to engage in treatment, and lower levels of aggression. The review highlighted that staff and patient perceptions of social climate do not always correlate due to their different perspectives of the environment. The studies found that ratings of social climate were linked to levels of aggression; however, multiple variables are likely to interact making it difficult to ascertain exactly which factors contribute more to patient aggression. The results also indicate a need for further validation of the more commonly used social climate measures, particularly across different settings and with varying populations.

Introduction

The term ‘social climate’ is used to describe the environment, or atmosphere, of a particular setting which may influence the moods and behaviours of the people inhabiting that setting (Schalast et al., 2008). Day, Casey, Vess, and Huisy (2011) discussed the difficulty in defining the term ‘social climate’ and identified alternative terms which have been used within other studies: ‘workplace climate’ (Carr, Schmidt, Ford, & Deshon, 2003); ‘ward climate’ (Stevens, 1961); and ‘social environment’ (Smith, Maume, & Reiner, 1997). A more encompassing definition of social climate has been devised by Wright (1993) who proposed it to be a combination of features that: 1) differentiate a setting from other settings; 2) are generally long-standing; and 3) have an impact upon the participants within that particular setting.

Day et al. (2011) suggested that the experiments of Zimbardo (1972) first highlighted the influence of social climate on individuals’ behaviour. Zimbardo and his Stanford University colleagues recruited male students who had been screened and deemed psychologically healthy to take part in the study; they were randomly assigned roles of ‘prisoners’ and ‘guards’. The study was intended to be conducted over a period of two weeks; however, the experiment had to be stopped after just six days due to the level of abuse to which the guards were subjecting the prisoners. Zimbardo determined that the environment had caused the detrimental behaviours of the students (Day et al., 2011). However, the ecological validity of such a study has been questioned by Bem and Lord (1979) as accurate measurements of social climate would more than likely need to occur within existing services where staff and patient roles are assumed ‘by default’ and not ‘assigned’ by a third party.

Nevertheless, social climate is a vital component of patients’ treatment (World Health Organization, 1953) and the fostering of positive staff-patient relationships is known to influence the stability of psychiatric patients (Fluttert, 2010). Factors which are known to contribute to positive social climate are trusting relationships with staff (Fish & Culshaw, 2005); personal characteristics of patients (Meehan et al., 2006); staff interactions with patients (Nesset et al., 2009); and purpose-built wards (Long et al., 2011b). As such, a number of assessments which measure social climate have been developed and are outlined here.

Measures of social climate

The Ward Atmosphere Scale (WAS; Moos & Houts, 1968) was developed via observations of patients on psychiatric wards and interviews with patients and staff. It contains 100 items under 10 subscales of: *Involvement*, meaning how much the patients feel involved in the running of the ward; *Support*, relating to how supported the patients feel; *Spontaneity*, regarding the degree of patients' spontaneous behaviour; *Autonomy*, meaning the level of responsibility given to patients; *Practical Orientation*, meaning how much the patients are supported to develop practical skills for re-integrating into the community; *Personal Problem Orientation*, relating to how much the patients are encouraged to understand their difficulties; *Anger/Aggression*, regarding the level of patients' aggression; *Order/Organisation*, relating to how much importance is placed on the organisation and running of the ward; *Programme Clarity*, meaning how clear the policies and procedures are to the patients; and *Staff Control*, regarding how much the staff have to implement procedures in order to maintain control of the unit. The number of items means that the measure can take considerable time to complete (Chester et al., 2015) and the terminology of some items is regarded as outdated which might impact upon the measure's psychometric properties (Røssberg & Friis, 2003). Moos also developed the Correctional Institutions Environment Scale (CIES; Moos & Schaefer, 1987) which is a 90 item true/false questionnaire comprising nine subscales each containing 10 items. This scale measures similar dimensions to the WAS, but is used within correctional facilities. Waters and Megathlin (2002) found that the CIES had satisfactory internal consistency. The Community-Oriented Programs Environment Scale (COPES; Moos, 1972) assesses the social environment of community-based treatment programmes. The measure contains 100 true/false statements divided into 10 subscales under the same three dimensions as the CIES, which are deemed to have moderate to high internal consistency (Bliss, Moos, & Bromet, 1976).

According to Chester et al. (2015), the Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008) is the most common measure of social climate used in the United Kingdom, although Tonkin (2016) explained that it is not as in-depth as other social climate measures. The EssenCES contains 17 items (two of which are filler items), comprising five questions under each of the three subscales of: *Therapeutic Hold*, meaning the quality of therapeutic relationships with staff and the therapeutic nature of the setting; *Patients' Cohesion and Mutual Support*, which examines the level of support that patients perceive

from their peers; and *Experienced Safety*, which explores whether patients feel safe from threat. Studies have found the EssenCES to have good internal consistency and convergent validity with other social climate measures (e.g., Howells, et al., 2009; Tonkin et al., 2012). Additionally, Milsom, Freestone, Duller, Bouman, and Taylor (2014) confirmed the measure's factor structure and deemed it valid to use within medium-secure settings.

Tonkin (2016) reviewed the psychometric properties of the more commonly used social climate measures (i.e., the WAS/CIES and the EssenCES). He indicated that the EssenCES had received 'more consistent and extensive empirical support' (p. 19) and that there was support for its use across different populations (e.g., forensic mental health services, prison settings). However, Tonkin highlighted that further research is required to establish the validity of the EssenCES in low secure settings, women's services, young offender institutions, and with individuals with IDD. Tonkin also advised that for a more in-depth analysis of social climate the WAS/CIES might be more appropriate; however, as previously mentioned the phrasing of some items is outdated (Røssberg & Friis, 2003). Furthermore, Tonkin emphasised that both the WAS/CIES and EssenCES have not been validated with certain populations which further limits their use across service settings. A more in-depth critique of the EssenCES can be found in Chapter 3.

Tonkin (2016) discussed two recently developed social climate measures. Firstly is the Forensic Satisfaction Scale (FSS; MacInnes, Beer, Keeble, Rees, & Reid, 2010) which contains 60 items across the domains of *staff interaction*, *rehabilitation*, *communication*, *milieu*, *finance, safety*, and *overall care*. In their study of therapeutic relationships and patient satisfaction, MacInnes, Courtney, Flanagan, Bressington, and Beer (2014) reported the internal reliability of the scale to be $\alpha = 0.9$ and that it had good concurrent validity with the Verona Satisfaction Scale (Ruggeri et al., 2000). The second scale is the Prison Group Climate Inventory Short Form (PGCI-SF) which includes 23 items across four subscales and was based on the original PGCI 36-item form (van der Helm, Stams, & van der Laan, 2011). Tonkin highlights that these measures are only applicable for use with patients and prisoners respectively as opposed to staff working in hospital/prison settings. Also, there is limited research surrounding the use of these instruments as their psychometric properties have not been established; therefore their utility is currently unclear.

Perceptions of social climate

Kirby (1997) examined the perceptions of ward atmosphere of staff and patients on a long stay/rehabilitation and a pre-discharge ward using the WAS. He found that ratings of social climate of the long stay/rehabilitation ward were more positive than for the pre-discharge ward. Kirby suggested this may reflect the differing attitudes of the patients given their different stages along the treatment pathway, as well as differences in staffing/observation levels on each ward. In addition, staff and patient ratings varied on some items of the WAS, which has been found in other studies where staff generally rate items more highly than patients (e.g., Lanza et al., 1994; Røssberg & Friis, 2004). This disparity in ratings serves to highlight the different reasons why patients and staff are in hospital (Røssberg & Friis, 2004). Røssberg and Friis (2004) concluded that ward atmosphere ratings are more important when assessing patient satisfaction than they are for staff satisfaction, although one could argue that staff satisfaction is just as important given that staff attitudes and behaviours could impact upon patients' experiences of their care (e.g., Papadopoulos et al., 2012).

Brunt and Rask (2007) conducted a qualitative analysis with patients and staff within a maximum security forensic hospital. Their study elicited two main themes, the first being 'Internal Characteristics' of the ward. The subthemes associated with positive social climate were *pre-conditions for interpersonal relations*, meaning the ability of staff to engage with patients; *interpersonal relations*, when staff-patient relationships were maintained effectively; *order, organisation and rules*, pertaining to appropriate boundaries for patients; and *feeling good/feeling secure*, which could come as a result of the other subthemes being present. The second theme was 'External Characteristics' outside of the ward. The subthemes relating to positive social climate were *staff – qualifications and organisation*, meaning experienced and knowledgeable staff; *treatment and pre-conditions for treatment*, referring to appropriate therapies being available and patients taking responsibility for their treatment; *daily activities*, where both individual and group activities were offered; and *physical environment*, meaning the cleanliness of the unit and having sufficient space. The study concluded that staff-patient relationships play an important role in developing and maintaining a positive social climate.

Social climate and its relationship with treatment outcomes

Schubert, Mulvey, Loughran, and Losoya (2012) examined the relationship between juvenile offenders' perceptions of their experiences in prison and rates of reoffending following release. They found that positive ratings of experiences were linked to reductions in recidivism, regardless of offender characteristics or the type of facility. Moos, Shelton, and Petty (1973) examined staff and patient ratings of the treatment environment and the links with outcomes across several wards of a veterans' administration hospital. Using the WAS, they found that wards with high drop-out rates had low scores on the subscales of Involvement, Support, Order and Organisation, and Programme Clarity. Also, wards with high release rates of patients were perceived as well organised and had clear rules and regulations. Klass, Growe, and Strizich (1977) found that patients were more likely to remain out of hospital for longer periods post-discharge if the expression of Anger and Aggression was lower and if Order and Organisation on the WAS measure was rated highly. Conversely, Jörgensen, Römma, and Rundmo (2009) proposed that the ward environment is not necessarily important for treatment progress to occur, although they stress that their small sample size and issues with the psychometric properties of the WAS may affect the generalisability of their results.

In terms of specific treatment *groups*, van der Helm, Beunk, Stams, and van der Laan (2014) discovered that an open group climate was associated with greater treatment motivation and active coping by juvenile offenders. Similarly, Beech and Hamilton-Giachritsis (2005) examined therapeutic climate and its impact upon the effectiveness of a sex offender treatment programme by using the Group Environment Scale (GES; Moos, 1986). They found that support from the group facilitators was associated with positive group processes such as group member cohesiveness and expressiveness. In turn these processes were found to reduce attitudes towards offending in group members. An earlier study by Beech and Fordham (1997) found similar results.

Social climate and its relationship to violence/aggression

Violent and/or aggressive behaviours can have significant physical and psychological effects on staff and patients and is an ongoing issue within psychiatric services (e.g., Barlow, Grenyer, & Ilkiw-Lavalle, 2000; Owen, Tarantello, Jones, & Tennant, 1998; Soliman & Reza, 2001). Lanza et al. (1994) asked patients and staff on two acute and four long-term

psychiatric units to complete the WAS; the frequency of assaults from each unit were also recorded. The results indicated that adequate staffing levels helped to reduce the frequency of physical assaults from patients. Higher scores relating to staff involvement and patient autonomy were observed on the ward with the lowest frequency of assaults. In addition, higher levels of staff control were related to a higher frequency of assaults. Despite these apparent relationships a large proportion of patients found it difficult to complete the WAS and the sample size was relatively small; caution is therefore advised when interpreting the results.

Meehan et al. (2006) gathered information regarding patient perceptions of factors leading to aggressive behaviour. The themes elicited were *Environment*, meaning a lack of personal space; *Empty days*, where boredom caused frustration; *Staff interactions*, meaning negative staff attitudes and attempts to control the patients; *Medication*, which was cited as control being taken from patients; and *Personal characteristics of the patients*, where some patients were more impulsive and demanding. Themes linked to reducing incidents of aggression were *Early intervention*, where proactive staff could help to reduce incidents of aggression; *Justice issues*, where patients behaving aggressively should be dealt with appropriately; *Activities to relieve boredom*, meaning that patients wanted a regular timetable of activities; *Patient control*, where one particular patient could be assigned responsibility for mediating in times of conflict; and *Staff attitudes*, meaning that negative comments from staff could give rise to aggression. The study highlighted that patient aggression could be managed more effectively by the staff/organisation, although another view might be that patients should take responsibility for their behaviour.

Another qualitative study by Fish and Culshaw (2005) explored experiences of patients and staff regarding aggression within a medium secure IDD service. Patients discussed how provocation from peers was one reason for their aggressive behaviour as well as the ward atmosphere, meaning patients feeling frustrated with the locked environment and not feeling listened to by staff. The staff participants identified that the ward environment might be a cause of aggression; however, they did not seem aware of how *they* might play a part in triggering patients' aggression. Notably, patients stated that being able to talk to staff and develop trusting therapeutic relationships helped to keep them calm. As with Meehan et al.'s (2006) study, this suggests that staff play an important role in perceptions of social climate and levels of patient aggression.

Papadopoulos et al. (2012) found an association between negative staff attitudes and aggressive behaviours. Indeed, negative staff attitudes might impact upon the way in which a ward is managed and therefore the atmosphere of the environment. They recommended that reducing staff stress/burnout and increasing staff morale may decrease incidents of conflict; this finding is corroborated by Agerfold and Andersen (2006). Conversely, Bowers, Allan, Simpson, Jones, and Whittington (2009b) found no associations between staff morale and aggressive behaviours. Daffern, Mayer, and Martin (2004) state that environmentally unstable units (e.g., frequent admissions and discharges of patients) can increase patient aggression, although such units might therefore benefit from more effective staff management where patients are supported with ongoing changes.

The current review

Although research suggests that perceptions of social climate are associated with incidents of aggression, there were no existing systematic reviews relating to this subject. The only reviews to be similar to the area of research were that of Cornaggia, Beghi, Pavone, and Barale (2011), who found that social climate was deemed to be one of the factors influencing aggression in psychiatric wards; and Gadon, Johnstone, and Cooke (2006), and Welsh, Bader, and Evans (2013) who examined situational variables and their links to violence. Whilst some reviews highlighted that elements of the social climate may be linked to aggression, none of them explored perceptions of social climate. As such, the current review aims to fill this gap. Existing research examining perceptions of social climate will be identified. The data will then be assessed to ascertain the influence of social climate on treatment outcomes and patient behaviours, in particular aggression, with the resultant implications for services.

Aims and objectives

This systematic review aims to examine perceptions of social climate and incidents of aggression in secure mental health and/or forensic service settings. The specific objectives of the review are:

- To explore perceptions of social climate in secure mental health and/or forensic service settings;

- To examine any differences in perceptions of social climate between staff and patients within the same settings;
- To investigate what factors may influence positive/negative ratings of social climate;
- To explore how ratings of social climate may impact upon patients' treatment outcomes;
- To assess any relationships between perceptions of social climate and incidents of aggression;
- To determine whether there are any valid and reliable measures of social climate.

The next section details the method employed for the selection of relevant research articles to be included within the current review.

Method

Scoping exercise

Searches relating to the review subject were carried out using The Campbell Library, the University of York Centre for Reviews and Dissemination, and The Cochrane Library. No existing systematic reviews were found, which confirmed the need for the current review. Additionally, a basic scoping search was conducted using the PsychINFO database using the terms:

"social* climate*" AND forensic* AND aggressi*

This brief search retrieved a small number of relevant articles which indicated that a more in-depth search would elicit sufficient data in order to perform the current review.

Overview of search strategy

The search was comprised of three stages:

1. A search of relevant electronic databases, namely: PsychINFO (1990-2017); PsychARTICLES (1990-2017); MEDLINE (1990-2017); and EMBASE (1990-2017). These date ranges were chosen with the aim of retrieving recent articles but keeping the number of articles to a manageable amount. These searches were conducted on 10th July 2017.
2. 'Hand searching' the reference lists of all of the relevant articles defined from the database searches which met the predefined inclusion/exclusion criteria.
3. Contacting five experts in the field of measuring social climate in forensic mental health services to request any salient studies relating to the current review which may not have been identified in the previous two stages. Three experts responded.

Search terms

The search terms below were used via the use of the Boolean operators 'OR' and 'AND' (to ensure that all five search concepts were included). Wildcard terms were also used for some words in order to capture alternative spellings.

view* OR opinion* OR feeling* OR thought* OR perceiv* OR belie* OR rate* OR rating* OR measure* OR attitud* OR percept* OR viewpoint* OR concept* OR think* OR knowledge* OR impress* OR sense* OR awareness* OR notion* OR judgement* OR judgment*

AND

(social* or institut* or therapeutic* or organi?ation* or unit* or ward* or hospital* or facilit*) adj4 (climate* or cohesi* or risk* or safe* or ambi?n* or surround* or morale* or milieu* or atmospher* or support* or condition* or environment* or service*)

AND

patient* violen* OR patient* abuse* OR peer* violen* OR risk* behavio?r* OR aggress* behavio?r* OR aggress* inciden* OR violen* behavio?r* OR threat* behavio?r* OR ((physical* or verbal*) adj4 (inciden* or violen* or threat* or disorder* or conflict* or

disrupt* or abus* or aggress* or assault* or hostil* or bull* or attack* or rage* or anger* or angry* or riot* or fight*or victim*))

AND

offen* OR convict* OR patient* OR client* OR crim* OR delinquen* OR incarcerat* OR devian* OR detain* OR antisocial* OR correctional* OR forensic* OR service* user*

AND

(mental* or secur* or mental* health* or psychiatr* or treatment* or low* secur* or medium* secur* or high* secur* or locked* rehab* or resident* care*) adj4 (hospital* or unit* or ward* or institut* or service* or clinic* or asylum* or sanatorium* or setting* or facilit* or state* hospital*)

An example of the output from the search which was conducted using the Ovid search platform (PsychINFO) is attached in Appendix 1. Subsequent to each search the results were exported to RefWorks reference manager.

Screening and selection of studies (applying inclusion/exclusion criteria)

Once all of the searches had been conducted a total of 5,447 hits were returned. Firstly, all duplicate references were removed (*n*=59). Secondly, all titles and abstracts of the remaining research articles were removed (*n*=5,351) where it was evident that they were unrelated to the current review subject and/or did not meet the inclusion/exclusion criteria of the screening and selection tool (SST). Thirdly, complete copies of the remaining articles (*n*=37) were obtained and the inclusion/exclusion criteria applied, meaning that a total of 22 papers were excluded. The fourth part of the screening involved conducting hand searches of the reference lists of the included papers. A total of 27 additional papers could potentially be included; however, six of these papers could not be obtained through online databases or contacting authors. In addition, four studies were not conducted in either secure mental health and/or forensic services and so were excluded. Lastly, the SST was applied to the articles obtained from experts in the field meaning that a further two papers were included; eight papers were excluded as two articles used samples from prison populations, and the remainder focused on determining the validity and reliability of social climate measures as

opposed to the implications the ratings may have on services and client groups. Appendix 2 documents the 40 papers which were excluded and the reasons for exclusion. A diagrammatical representation of the screening process can be viewed in Figure 1.

The screening and selection tool (SST)

Because the current review was not examining interventions or their effectiveness it was not deemed appropriate to solely use a Population, Intervention, Comparison, Outcome (PICO) framework. The Sample, Phenomenon of Interest, Design, Evaluation, Research type (SPIDER; Cooke, Smith, & Booth, 2012) was deemed a more appropriate framework for assessing the suitability of research articles for inclusion within the current review. As such, aspects of each framework which were deemed relevant to the subject area were used as part of the SST (Appendix 3). A summary of the main inclusion criteria which formed part of the SST is given below.

Population. Adult (over 18) males and females with mental health diagnoses and/or forensic histories.

Phenomenon of Interest. Perceptions of social climate within secure forensic and/or mental health services.

Research method and design. Both quantitative and qualitative methods. No narrative reviews, systematic reviews, editorials, commentaries.

Publication type. Must be a published study.

Year of publication. Between the years 1990-2017.

Language. Articles must be in English language only.

Studies were excluded if they were: a) unpublished papers (e.g. dissertations, theses), due to the absence of a formal peer review; and b) conducted with prison populations, as the final research project being conducted would be gathering its data from a secure mental health/forensic service setting.

Quality assessment

Subsequent to using the SST, there were a total of 34 research articles to be quality assessed. This comprised of 23 cross sectional studies, six qualitative studies, and five cohort studies. The Critical Appraisal Skills Programme (CASP, 2013) website offers various checklists applicable for use when evaluating the quality of different research designs. Appraisal tools for the qualitative studies (see Appendix 4) and the cohort studies (see Appendix 5) were selected and adapted from the CASP website to quality-screen the corresponding studies due to the wide use of these tools. Due to no checklist being available for cross-sectional designs one was devised for use in the current review (see Appendix 6) using guidance from the literature (Von Elm et al., 2007) and information from a checklist for cross-sectional studies (STROBE, 2007).

The quality assessment scoring method used to ascertain how much of the criteria had been met by the screened studies is detailed in Table 2.1 below.

Table 2.1

Scoring criteria for adapted quality assessment checklist

Criteria met?	Score
Yes	2
Partially	1
No	0
Can't tell	0

The scores obtained through the quality assessment were summed for each article and a percentage calculated by dividing the total score by the maximum possible score achievable and multiplying by 100. A score of zero was applied if no information regarding a particular criterion was deemed present within a study or if it was not possible to ascertain whether or not the relevant information was included; one would expect pertinent information to be clearly outlined in such research.

The number of studies being screened was deemed to be large; therefore, only those studies which were scored as 75% and above were deemed of appropriate quality to be

included in the review. This might have brought an element of bias into the selection process, but it meant that the findings and conclusions of the review were based on high quality studies. All of the papers were quality screened by the researcher and 24% of the papers (*n*=8) were quality assessed by a second rater. The minimum quality screen score of 75% was assessed by both raters as being achieved by seven out of the eight double-screened papers, giving an agreeability rating of 88%. In total, 23 studies scored such that they were included within the final analysis (see Table 2.2 for a summary of each study). The 11 studies that were removed from the analysis due to their poorer methodological quality are detailed in Appendix 7.

Data extraction

A data extraction form was designed to capture the salient information relating to each study (see Appendix 8). The form extracted the following information:

- Generic details about the study (e.g. title, author, year, country of study);
- Specific information about the study (aims and objectives, methodology, design, measures used, standardisation reliability and validity of the measures);
- Participant information (gender, age, ethnicity, mental health diagnosis, service setting);
- Study results (findings and conclusions)

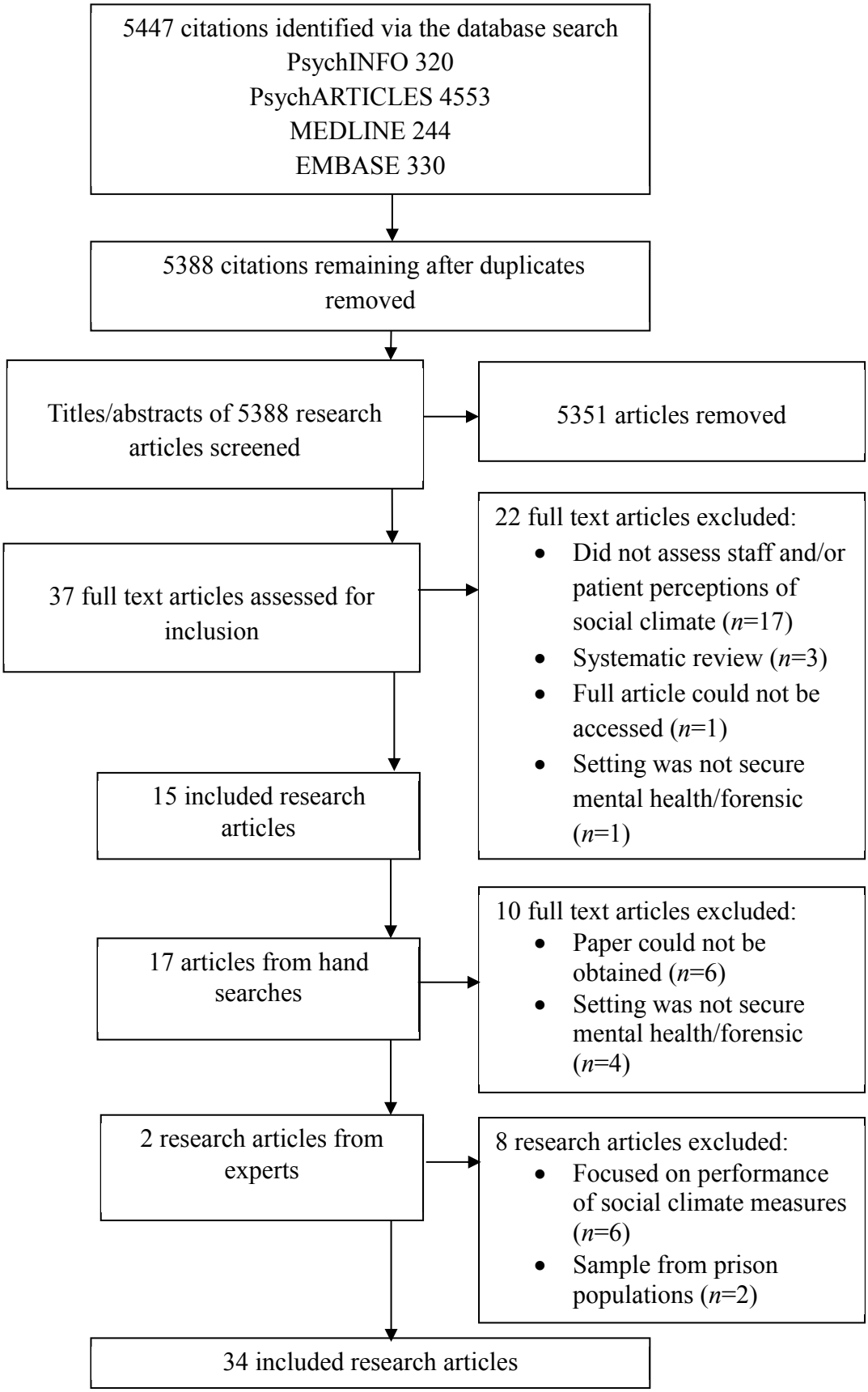

Figure 1. Diagrammatical representation of the screening and selection process

The next section will examine the research articles deemed to be of suitable quality for the current review.

Results

Overview of studies

Table 2.2 gives an overview of the data for the 23 included studies. This enables an exploration of social climate in secure mental health and/or forensic service settings, how this might impact upon treatment outcomes, and its links to aggression.

Methodological and study characteristics

The studies came from a range of countries. The largest group came from the United Kingdom (*n*=10), three studies came from Sweden, two from the United States of America and Australia, and one each from Norway, Denmark, Canada, South Africa, Tehran, and The Netherlands. There was a wide time period in which the studies had been conducted, with the oldest being published 22 years' ago (Caplan, 1993) and the most recent being published one year previously (Zamir, Beyraghi, Pour, & Farzaneh, 2016). The majority of the study designs were the same, with 18 utilising cross-sectional designs, three employing qualitative designs and two using cohort designs.

Participants and recruitment

Not all of the studies included full demographic information about the participants. The age range of patient participants across the studies was 18-82 years; for staff participants this was 18-70 years. The majority of patients had a diagnosis of Schizophrenia or disorders within the psychotic spectrum. Only three studies detailed the ethnic diversity of their participants (Beazley & Gudjonsson, 2010; Bressington, Stewart, Beer, & MacInnes, 2011; Campbell et al., 2014), with the majority of participants within these studies being categorised as White British. Six studies gathered their data from individuals from the IDD population (Bakken et al., 2012; Dickens, Suesse, Snyman, & Picchioni, 2014; Johansson & Eklund, 2004; Langdon et al., 2006; Willets et al., 2014; Wood et al., 2008), and one study was conducted within a psychogeriatric setting (McCann, Baird, & Muri-Cochrane, 2015).

For the majority of studies, all patient and staff participants within the research settings were offered the opportunity to take part. Johnson, Martin, Guha, and Montgomery (1997) selected specific participants within the hospital with a history of aggressive behaviours. Some studies excluded patient participants if they were deemed too mentally unwell to participate (e.g., Beazley & Gudjonsson, 2010), whilst others required that patient/staff participants had resided/worked respectively on the ward for a minimum period of time (e.g., Brunt, 2008). Staff participants worked within a range of disciplines including nursing, psychology, support work, psychiatry, and occupational therapy.

A range of sample sizes were utilised within the studies, the smallest being seven patients who were interviewed as part of a qualitative study exploring experiences of their care (Wood et al., 2008), and the largest being 879 participants where the effect of environmental design on perceptions of social climate was examined (Eggert et al., 2014). The research settings included psychiatric in-patient units, a psychogeriatric unit, low and medium secure settings, maximum security psychiatric hospitals, and acute psychiatric wards.

Study focus/aims and comparison groups

A predominant number of studies examined the relationship between social climate and variables such as aggressive behaviours (e.g., Bowers, Allan, Simpson, Jones, & Van Der Merwe, 2009a; Ros, van der Helm, Wissink, Stams, & Schaftenaar, 2013; van Wijk, Traut, & Julie, 2014); the physical and psychosocial environment (e.g., Eggert et al., 2014; Tuvesson, Wann-Hansson, & Eklund, 2011); patient characteristics (e.g., Dickens et al., 2014); engagement in treatment (e.g., Beazley & Gudjonsson, 2010); the therapeutic alliance (e.g., Johansson, & Eklund, 2004); and patients' attachment to the service (e.g., Campbell et al., 2014), whilst Long et al. (2011a) explored a range of the above factors in their study.

Some studies conducted a more general exploration of ward atmosphere across settings such as forensic units, single-sex wards, psychogeriatric wards, and services for individuals with IDD (e.g., Bressington et al., 2011; Brunt, 2008; Caplan, 1993; McCann et al., 2015; Middleboe, Schjødt, Byrsting, & Gjerris, 2001; Morrison, Burnard, & Phillips, 1997; Willets et al., 2014). Some studies included comparisons of ward atmosphere ratings between patients and staff (e.g., Zamir et al., 2016). Two qualitative studies explored the

perspectives of patients who behaved aggressively and what led to their aggression (Johnson et al., 1997; van Wijk et al., 2014) and the other examined patient perceptions of the quality of their care whilst in hospital (Wood et al., 2008). One study examined IDD patients' WAS ratings and how they compared to non-IDD patients' ratings, together with whether or not they were able to complete the WAS accurately (Bakken et al., 2012).

Eight studies used the WAS (Moos & Houts, 1968) and the same number used the EssenCES (Schalast et al., 2008); two used the CIES (Moos & Schaefer, 1987); two qualitative studies used Content Analysis to ascertain patient perceptions, with the third using a phenomenological method and the Tesch descriptive method of open coding (Tesch, 1990). One study used the COPES (Moos, 1972), and one used the PGCI-SF which was based on the original PGCI (van der Helm et al., 2011).

Quality of included studies

Due to the minimum score for the quality screen being set at 75%, the quality ratings for the included studies were high and ranged from 75% to 94% (*M*=84%).

Narrative data synthesis and findings

The included studies comprised a range of aims, research methodologies and participants. As such, it was deemed more appropriate to conduct a narrative data synthesis in order to extract key findings relating to each of the studies as opposed to carrying out a meta-analysis.

The perceptions of social climate in secure mental health and/or forensic service settings. Bressington et al. (2011) gathered social climate ratings from patients within low and medium secure units using the EssenCES. A one sample *t*-test indicated no significant differences between the mean scores for the patients when compared to the mean scores from previous studies. Bressington and colleagues also gathered data on patient satisfaction using the FSS (MacInnes et al., 2010). Pearson correlations revealed that the majority of subscales of the EssenCES were associated with patient satisfaction. However, the EssenCES subscale of Patient Cohesion was only weakly correlated with two FSS subscales; rehabilitation (*r* =

0.45, p =.002) and safety (r = 0.40, p =.008). The study also examined the EssenCES correlations with another measure which is discussed in due course. The findings corroborate those of Schalast et al. (2008) who found that positive relationships with staff correlated with high scores on the Therapeutic Hold subscale indicating that patient-staff relationships play an important part in maintaining a positive social climate.

Brunt (2008) used the WAS to examine patient and staff ratings of ward climate in single-sex wards, with female patients giving an 'average' rating for the majority of the subscales and male patients giving an 'average to above average' rating. A significant difference was found in the WAS rating for Involvement between the male and female wards (p <.05), with female patients rating this subscale more highly. In addition, there were significant differences between staff ratings on the male and female wards for the subscales of Involvement (p <.05); Spontaneity (p <.001); Practical Orientation (p <.01); Personal Problem Orientation (p <.01); and Anger and Aggression (p <.05), where staff on the female wards rated these more highly. Brunt concluded that the female patients were more involved in the day-to-day activity of their wards, which might account for the higher WAS ratings. He also highlighted that the male patients had, on average, been admitted to hospital for longer periods of time and had higher levels of comorbidity in their diagnoses. No correlation between patients' scores and the scores of ward staff were examined, which might have helped elicit information regarding any relationships between the two.

Wood et al. (2008) examined IDD patients' experiences of their care. The themes which emerged were: 1) *Restrictions/detention*, including: admission as punishment, not being able to go home, the staff being in control, poor food quality, wanting smoking to be banned, wanting a cleaner environment, other patients impacting upon them, and males not liking the mixed-sex environment; and 2) *Treatment*, comprising: treatment being helpful, making progress, meetings being scary, good staff relationships, and positive experiences of advocacy. Bakken et al. (2012) also gathered data from participants with IDD in Norway. They examined whether individuals could complete the WAS accurately and how their ratings compared to non-IDD patients. The standard deviation in WAS subscale scores was higher than that of non-IDD patients indicating that IDD patients disagreed more on their ratings. This could be due to IDD patients misinterpreting the meaning of the questions; an issue which was highlighted in the study. In addition, staff WAS scores in the mild-moderate

Table 2.2 *Summary of the 23 included studies investigating social climate*

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Bakken, T. L., Røssberg, J. I., & Friis, S. (2012). Norway.	Aim: To examine whether psychiatric in-patients with intellectual developmental disability (IDD) were able to complete the WAS in a meaningful way. Design: Cross-sectional study.	10 patients on Ward A, age range 23-53 years. 8 had mild IDD and 2 had moderate IDD. Also, 10 staff from Ward A participated. 7 patients on Ward B, age range 23-56 years. All had moderate IDD. Also, 11 staff from Ward B participated. All patients have diagnoses of severe mental illness and/or psychosis.	Psychiatric in-patient unit for individuals with IDD.	The Ward Atmosphere Scale Revised (WAS-R).	Research confirmed the validity of the WAS (Røssberg & Friis, 2003). For Ward A, the WAS subscale of Support did not show acceptable internal consistency estimated by Cronbach's alpha. For Ward B, Angry and Aggressive Behaviour, and Order and Organisation did not show acceptable internal consistency.	Findings: Patients scored higher on some subscales than other Norwegian psychiatric units Patients with moderate IDD had more problems understanding the WAS-R statements. This affected the internal consistency of the WAS-R items. Conclusion/s: There is a need for more research on measuring social climate for patients with IDD.	12/16 (75%)
Beazley, P., & Gudjonsson, G. (2010). United Kingdom.	Aim: To examine the relationship of depression and ward atmosphere in influencing patient motivation. Design: Cross-sectional study.	60 patients (50 male, 10 female). 58% Black/Black British, 33% White British, and 8% Mixed Ethic background. 80% had schizophrenic spectrum disorder, and 38% had a diagnosis of personality disorder.	Medium secure unit.	The Ward Atmosphere Scale (WAS).	Previous research by Moos (1974) has shown its validity and reliability. The measure had an observed alpha level of 0.82.	Findings: Effective treatment for depression and improving the ward atmosphere are likely to improve the motivation of patients. Conclusion/s: Depression and ward climate both affect patient motivation and both need to be treated.	14/16 (88%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Bowers, L., Allan, T., Simpson, A., Jones, J., Van Der Merwe, M. (2009a). United Kingdom.	Aim: To assess the relationship of patient aggression to other conflict behaviours, the use of containment methods, service environment, patient routines, staff demographics, and staff group variables. Design: Cross-sectional study.	Staff and patients but no characteristics given.	136 acute psychiatric wards.	The Ward Atmosphere Scale (WAS).	Previous research by Moos (1974) has shown its validity and reliability.	Findings: More order and organisation (WAS) were associated with lower levels of patient aggression. There was a positive association found between staff numbers and incidents of aggression. Conclusion/s: Further research is needed to examine staff-patient relationships and their influence on aggressive incidents in more detail.	13/16 (81%)
Bressington, D., Stewart, B., Beer, D., MacInnes, D. (2011). United Kingdom.	Aim: To assess patient satisfaction (including social climate) in forensic in-patient settings. Design: Cross-sectional study.	44 patients. Age range: 18-25 (*n*=9), 26-35 years (*n*=18), 36-45 (*n*=11), and 46+ (*n*=6). 35 participants were male. White British/Irish (*n*=15), Black British (*n*=6), and Black African (*n*=6), White other (*n*=2), Indian (*n*=1), and Other (*n*=9).	4 medium secure and 3 low secure units in one NHS Trust.	The Essen Climate Evaluation Schema (EssenCES).	Previous research by Schalast (2008) has shown its validity and reliability. The internal reliability of the scale ranges from 0.73-0.87 and has concurrent validity with the Good Milieu Index (GMI) and WAS.	Findings: The majority (55%) of service users were satisfied with most service areas. Patients with a more positive view of Therapeutic Hold are more likely to be satisfied with services. Conclusion/s: Satisfaction is related to the patients' therapeutic relationship with key-workers and the social climate of the ward.	14/16 (88%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Brunt, D. (2008). Sweden.	Aim: To investigate ratings of ward atmosphere in single-sex wards. Design: Cross-sectional study.	23 male patients, age range 23-53 years (*M*=37). 31.8% were deemed to have psychopathology as measured by the Brief Psychiatric Rating Scale (BPRS). 12 female patients, age range 19-40 years (*M*=25). 27.8% were deemed to have psychopathology as measured by the BPRS. 104 nursing staff (73 worked on male wards, 31 worked on female wards).	Maximum-security forensic psychiatric hospital.	The Ward Atmosphere Scale (WAS).	Previous research by Friis (1986) has shown its validity and reliability.	Findings: The majority of the female patients' scores on the subscales of the WAS were higher than for the male patients. This indicates more involvement in the day-to-day life of the ward by the female patients. Conclusion/s: The specialisation of single-sex wards, as well as programmes which meet patient needs are important when creating a favourable ward atmosphere.	15/16 (94%)
Campbell, R., Allan, S., & Sims, P. (2014). United Kingdom.	Aim: To examine whether in-patient perceptions of ward climate, or their own personal levels of attachment anxiety/avoidance are associated with attachment to their service. Design: Cross-sectional study.	76 male patients. All had a primary diagnosis of some form of psychotic illness. Age range was 21-65 (*M*=35.55). White British (*n*=54), Mixed Race (*n*=9), Caribbean (*n*=5), Asian (*n*=6), African (*n*=2).	Four medium-secure hospital units across three NHS Trusts.	The Essen Climate Evaluation Schema (EssenCES).	It has been validated for use in UK settings (Tonkin, et al., 2012).	Findings: Significant positive correlation between service attachment and in-patient perceptions of ward climate. Conclusion/s: Ward climate is important when examining patients' service attachment, especially related to therapeutic relationships.	15/16 (94%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Caplan, C. A. (1993). USA.	Aim: To describe nursing staff and patients' perceptions of the ward atmosphere. Design: Cross-sectional study.	70 direct care nursing staff. 44 males, 24 females. Age range 27-66 years (*M*=39). Comprised of: 15 registered nurses, 17 lead forensic specialists, and 36 forensic treatment specialists. 39 male patients. Age range 18-59 years (*M*=30). Diagnoses included: schizophrenia, personality disorder, psychosis, and major depression.	Maximum-security forensic hospital.	The Ward Atmosphere Scale (WAS).	Previous research by Moos (1974) has shown its validity and reliability.	Findings: There were significant differences in perceptions of ward climate between patients and staff on the Involvement, Support, Order and Organisation, Program Clarity, and Staff Control. Conclusion/s: Interventions are necessary to assist nursing staff in maintaining an effective therapeutic environment.	12/16 (75%)
Ching, H., Daffern, M., Martin, T., & Thomas, S. (2010) Australia.	Aim: To assess whether staff training reduced seclusion levels; assess the impact on staff and patient perceptions of unit culture, staff attitudes towards seclusion, and staff confidence in managing seclusion. Design: Cohort study	60 staff and 13 patients in Phase 1. 61 staff and 7 patients in Phase 2. Staff age range was 18-70 years. As was the patient age range.	Secure inpatient hospital.	The Essen Climate Evaluation Schema (EssenCES).	The authors state that the EssenCES has had limited empirical scrutiny due to its recent development.	Findings: There was a reduction in the frequency of seclusions after the staff training. EssenCES scores remained consistent across the two phases. Conclusion/s: Possible to reduce seclusion without decreasing staff perceptions of safety, regardless of ongoing aggression.	19/24 (79%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Dickens, G. L., Suesse, M., Snyman, P., & Picchioni, M. (2014). United Kingdom.	Aim: Explore whether and how patients' demographic and clinical characteristics are associated with ward climate. Design: Cross-sectional study.	28 male and 35 female patients. Unit split: open ward (*n*=3), low secure ward (*n*=39), and medium secure ward (*n*=21). Primary diagnoses: psychotic spectrum (*n*=32), personality disorder (*n*=22), developmental disorder (*n*=7), affective disorder (*n*=1), and anxiety disorder (*n*=1).	Psychiatric hospital.	The Essen Climate Evaluation Schema (EssenCES).	Previous research by Schalast (2008) has shown its validity and reliability.	Findings: Female wards were rated as safer. Wards with a greater proportion of psychotic patients measured higher on the Experienced Safety subscale on the EssenCES. Conclusion/s: Patient characteristics relate to ward climate ratings, and may inform how clinicians can improve ward climate.	15/16 (94%)
Eggert, J. E., Kelly, S. P., Margiotta, D. T., Hegvik, D. K., Vaher, K. A., & Kaya, R. T. (2014). USA.	Aim: To examine the effect of the environmental design of a new secure forensic hospital on ward climate, safety, job satisfaction, and treatment outcomes. Design: Cohort study.	A total of 526 patients and 353 staff split across medium secure, maximum secure, intermediate, and minimum secure units. Staff participants included nursing, psychiatry, psychology, social work, occupational therapy, recreational therapy, education, chaplaincy, and public safety. No patient characteristics were given.	Secure forensic psychiatric facility - medium secure unit, maximum security unit, intermediate unit and minimum secure unit.	The Essen Climate Evaluation Schema (EssenCES).	Previous research by Schalast (2008) has shown its validity and reliability. Schalast reported corrected item-total correlation coefficients ranging from 0.49-0.75. Cronbach's alpha ranged from 0.73-0.87.	Findings: The measured benefit of the new facility was less than anticipated. Only one of the subscales on the EssenCES (Experienced Safety) increased subsequent to patients being moved to the new units. Conclusion/s: Physical environment has a limited effect on perceptions of ward climate and effective staff interactions can improve ward climate.	18/24 (75%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Johansson, H., & Eklund, M. (2004). Sweden.	Aim: To investigate how patients perceived the ward atmosphere and therapeutic relationship, and whether demographic and/or clinical factors had an influence on the therapeutic alliance. Design: Cross-sectional study.	A total of 61 patients (32 female, 29 male). Age range 19-82 years (*M*=43.2). Diagnoses: mental disorders due to substance abuse (*n*=7), schizophrenia/schizoid disorders (*n*=13), mood disorders (*n*=23), neurotic disorders (*n*=13), eating disorders (*n*=1), disorders of adult personality & behaviours (*n*=3), mental retardation (*n*=1)	Psychiatric in-patient ward.	Community-Oriented Programs Environment Scale (COPES).	The COPES has acceptable internal consistency, good test-retest reliability and good content and face validity (Moos, 1988).	Findings: Ward atmosphere ratings correlated with ratings of the therapeutic alliance. Conclusion/s: Staff should help to create a more supportive environment for patients by incorporating psychotherapeutic principles in their work, which may in turn help to improve more positive therapeutic outcomes.	15/16 (94%)
Johnson, B., Martin, M. L., Guha, M., & Montgomery, P. (1997). Canada.	Aim: To explore the perspective of thought-disordered individuals who acted aggressively, in order to gain insight into their experiences preceding an aggressive incident. Design: Qualitative study.	A total of 12 participants (11 male and 1 female), age range 20-40 years. All patients were White. 11 patients had either a diagnosis of schizophrenia or schizoaffective disorder. 1 had a diagnosis of bipolar affective disorder.	A tertiary-care provincial psychiatric hospital, and a psychiatric unit.	Tape-recorded semi-structure interviews were transcribed and analysed using Content Analysis.	N/A	Findings: Themes elicited that related to factors preceding aggressive behaviours were: Hospital, People, Policies, Feeling Powerful & Powerless, Aggressive Behaviour Despite having Coping Strategies. Conclusion/s: The external environment (including staff members) has a part to play in patients' aggressive behaviours.	15/20 (75%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Langdon, P. E., Swift, A., & Budd, R. (2006). United Kingdom.	Aim: To investigate the social climate of a low and medium secure unit for offenders with intellectual developmental disabilities (IDD). Design: Cross-sectional study.	A total of 18 male patients (mean age 32.11); 11 from the low secure and 7 from the medium secure unit. All participants had mild to moderate IDD. A total of 37 staff members (mean age 36.13). 20 from the low secure and 17 from the medium secure unit.	Secure forensic facility.	Correctional Institutions Environment Scale (CIES).	Previous research by Moos (1987) has shown its internal consistency and test-retest reliability.	Findings: There were differences in how staff and patients perceived the social climate, which varied depending on the unit. Conclusion/s: The lack of normative data for social climate within IDD services needs to be addressed.	14/16 (88%)
Long, C. C., Anagnostakis, K., Fox, E., Silaule, P., Somers, J., West, R., & Webster, A. (2011a). United Kingdom.	Aim: To assess social climate in women's secure units and its variation by security level, type of ward, therapeutic alliance, patient motivation, treatment engagement, and disturbed behaviour. Design: Cross-sectional study.	A total of 80 staff members. Age range 18-62 years (*M*=34.6). A total of 65 patients. Age range 18-61 years (*M*=32.5). 93% were White British and 895 were single. Primary diagnoses were personality disorder (*n*=36), schizophrenia/schizoaffective disorder (*n*=16), the remainder had a diagnosis that included bipolar and affective disorders, substance dependency and PTSD.	Two low secure and two medium secure units within a secure hospital.	The Essen Climate Evaluation Schema (EssenCES).	Previous research by Schalast (2008) has shown its validity and reliability.	Findings: Staff rated Therapeutic Hold more positively than did the patients. Social climate ratings were positively associated with higher patient motivation, treatment engagement, and therapeutic alliance. Conclusion/s: The EssenCES may be a useful measure of social climate that can indicate progress in treatment.	13/16 (81%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
McCann, T., Baird, J., & Muir-Cochrane, E. C. (2015). Australia.	Aim: To examine the perceptions of social climate of staff working in acute psychogeriatric inpatient units. Design: Cross-sectional study.	85 clinical staff, 29 male and 56 female. Mean age of 43.1 years (*SD* = 11.3). 47.6% staff were from Australia, 42.9% were from Asia, and 9.5% were from Western Europe.	Three locked acute psychogeriatric units.	The Essen Climate Evaluation Schema (EssenCES).	The internal consistency of the EssenCES has been established using Cronbach's alpha (α) by Howells et al. (2009).	Findings: EssenCES total and subscale scores were higher than those in studies by Howells et al. (2009) and Schalast et al. (2008). The authors propose this to be because aggression in forensic settings is more prevalent. Conclusion/s: Clinicians need to adopt a person-centred approach to the promotion of a supportive environment, for example, preventing patient aggression.	12/16 (75%)
Middleboe, T., Schjødt, T., Byrsting, K., & Gjerris, A. (2001). Denmark.	Aim: To investigate the relationship between patients' perceptions of the real and ideal ward atmosphere, and their satisfaction. Design: Cross-sectional study.	30 patients from locked units and 71 from the open units. 52 female and 49 male. Mean age of 44.0 years. Diagnoses of: schizophrenia (*n*=39), delusional disorder (*n*=6), acute psychosis (*n*=7), schizoaffective disorder (*n*=4), affective disorders (*n*=31), alcohol-related disorder (*n*=6), and other diagnoses (*n*=8).	Two locked units and two open units on a psychiatric ward.	The Ward Atmosphere Scale (WAS), Real and Ideal forms.	Previous research by Friis (1986) has shown good cross-cultural properties and construct validity.	Findings: The perception of ward atmosphere was not related to patient characteristics such as gender, age, and diagnosis. Environment may play a part in treatment outcomes. Conclusion/s: Patient satisfaction is associated with better compliance to treatment, which leads to better outcomes.	13/16 (81%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Morrison, P., Burnand, P., & Phillips, C. (1997). United Kingdom.	Aim: To assess the social climate of a newly established forensic unit, via staff and patient ratings. Design: Cross-sectional study.	Nursing staff (*n*=40) comprised of ward managers, charge nurses, staff nurses, and care assistants. Patients (*n*=11) where 6 were male and 5 were female.	Interim secure forensic unit.	Correctional Institutions Environment Scale (CIES).	Previous research by Moos (1975) reported its psychometric properties.	Findings: There was a high level of congruence between staff and patient ratings of social climate. Conclusion/s: Patients and staff perceive the unit in similar ways, with patients' ratings more positive than staff's. If positive ratings are related to small-sized units then this may have implications for the expansion of services.	14/16 (88%)
Ros, N., van der Helm, P., Wissink, I., Stams, G-J., & Schaftenaar, P. (2013). The Netherlands.	Aim: To examine the relationship between institutional climate and aggressive incidents. Design: Cross-sectional study.	A total of 72 patients, mean age 36.7 years.	Forensic mental health unit and a secure clinic for prolonged intensive care.	Prison Group Climate Inventory-Short Form (PGCI-SF).	The PGCI-SF has not yet been validated. The reliability of the PGCI-SF scales was good for support (α = .865, $\lambda 2$ = .877), growth (α = .867, $\lambda 2$ = .870), and atmosphere (α = .846, $\lambda 2$ = .853), and sufficient for repression (α = .606, $\lambda 2$ = .612).	Findings: The more open the institutional climate, the lower the number of aggressive incidents. Increased staff support was linked to lower levels of aggressive behaviour. Conclusion/s: Maintaining a more open institutional climate may help to reduce aggression, and create a safer environment for staff.	13/16 (81%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Tuvesson, H., Wann-Hansson, C., & Eklund, M. (2011). Sweden.	Aim: To investigate what aspects of the ward atmosphere were related to the psychosocial work environment. Also, any differences between nurses and nursing assistants' perceptions of the same. Design: Cross-sectional study.	93 staff members (38 nurses, 55 nurse assistants). 72 were female and 20 were male. Age range 21-65 years (*M*=48).	Psychiatric in-patient wards.	The Ward Atmosphere Scale Revised (WAS-R).	Previous research by Røssberg and Friis (2003) has found acceptable internal consistency on all subscales except Autonomy. The alpha levels of the six included subscales of Involvement, Practical Orientation, Personal Problem Orientation, Angry and Aggressive Behavior, Order and Organisation, and Program Clarity ranged from 0.53-0.69.	Findings: There was an association between how nursing staff rated the ward atmosphere and their psychosocial work environment. No differences in nurses and nursing assistants' perceptions. Conclusion/s: Several ward atmosphere subscales were related to aspects of the psychosocial work environment.	15/16 (94%)
van Wijk, E., Traut, A., & Julie, H. (2014). South Africa.	Aim: Explore and describe patients' perceptions of the possible factors which might contribute to their aggressive behaviour. Design: Qualitative study.	40 patients, with ages ranging from 21-55 years old.	Two pre-discharge wards in two state mental health facilities.	Audio-recorded semi-structure interviews were transcribed and analysed using Tesch's descriptive method of open coding.	N/A	Findings: The themes elicited included poor living conditions, staff disrespecting patients' culture and/or religion, and insensitive staff attitudes towards the patients. Conclusion/s: Environmental and situational factors contribute to patient frustration and aggressive behaviours.	17/20 (85%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Willets, L., Mooney, P., & Blagden, N. (2014). United Kingdom.	Aim: To compare the perceived social climate of intellectual developmental disability (IDD) services and non-IDD services. Design: Cross-sectional study.	73 staff members (34 males and 39 females) from disciplines including nursing, psychology, and occupational therapy. 38 from low secure and 35 from medium secure services. 64 male patients. Age range was 18-65 years. 39 patients were from low-secure and 25 were from medium secure services. 45 patients were from IDD services and 19 were from non-IDD services.	6 low secure wards and 4 medium secure wards.	The Essen Climate Evaluation Schema (EssenCES).	Previous research by Quinn et al. (2012) has shown its reliability with the IDD population; however its validity requires further examination.	Findings: No difference in patient views of social climate in IDD and non-IDD services. Social climate was rated more positively in low-secure services. Conclusion/s: Despite the EssenCES not yet being validated for the IDD population, it was felt to be the most appropriate measure for the population in the study.	15/16 (94%)
Wood, H., Thorpe, L., Read, S., Eastwood, A., & Lindley, M. (2008). United Kingdom.	Aim: To investigate the experiences of adults with intellectual developmental disabilities (IDD) regarding their care. Design: Qualitative study.	7 patients (5 male and 2 female). Full IQ scores were within the mild/borderline range (maximum was 75). Three patients were diagnosed with co-morbid psychiatric disorders.	Low secure forensic unit for individuals with IDD.	Semi-structured interviews with participants were tape-recorded and transcribed. Content Analysis was used to elicit themes.	N/A	Findings: Themes included: Lack of Control, Therapeutic Activities, Relationships with Staff, and Environment. Conclusion/s: Suggest a need for: a more open unit, higher expectations of patients, and a more domestic environment. More educational and less proscriptive approach, and more discussions with patients rather than assuming compliance.	17/20 (85%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Zamir, S. M., Beyraghi, N., Pour, Y. M., & Farzaneh, N. (2016). Tehran.	Aims: to assess the perception and satisfaction of patients versus staff in three psychiatric wards. Design: Cross-sectional.	121 patients, 58 staff, and 38 doctors.	Three psychiatric hospitals.	The Ward Atmosphere Scale (WAS).	No comments relating to the reliability or validity of the WAS made in the paper.	Findings: The WAS scores were higher for the staff in most of the items. Patient satisfaction was significantly different across the three hospitals, which may reflect the staff-patient relationships in each setting. Conclusion/s: Staff perceive the treatment environment more positively than the patients. The ratings may relate to the fact that patients and staff are in the hospital for different reasons. These results corroborate those of other studies.	12/16 (75%)

IDD ward were more positive than those of the moderate IDD unit; this might reflect the increased challenges of working with patients diagnosed with moderate IDD.

Middleboe et al. (2001) examined the relationship between patients' perceptions of the 'real' and 'ideal' ward atmosphere and their satisfaction with the psychiatric service. Participants completed both a WAS 'real' form (WAS-R), which represented their current perceptions of the environment, and a WAS 'ideal' form (WAS-I) to indicate their ideal environment. The satisfaction scale used by Middleboe and colleagues contained items relating to satisfaction with other patients, medication, and treatment. It was adapted from the Good Milieu Index (GMI) which was devised by Moos (Friis, 1986). Middleboe's results showed that patients rated their ideal ward atmosphere significantly higher than the real ward atmosphere on the subscales of Involvement, Support, Spontaneity, Autonomy, Practical Orientation, Personal Problem Orientation, Order and Organisation, and Programme Clarity (t = -12.8 to -6.2, p <.001). The ratings were not found to be associated with patient characteristics such as gender, age, or mental health diagnosis, indicating that environmental factors were most influential. In addition, the WAS domains of Relationship and System Maintenance were found to be significant predictors of satisfaction ratings (beta = 0.37 and 0.37 respectively, p <.001). As such, obtaining real and ideal social climate ratings might be a way of services assessing what changes could be made to improve patient perceptions and overall satisfaction with the ward environment.

These studies highlight ratings of social climate and satisfaction, and how these may be associated with patient-staff relationships, patient-patient relationships, and the day-to-day management of wards. It is also worth remembering that some lower ratings are not necessarily due to the environment, but might be related to the patients' mental wellbeing at the time they complete the measures (Brunt, 2008).

Do patient and staff ratings of social climate differ in the same settings? Caplan (1993) found significant differences in patient and staff ratings for five out of the 10 WAS subscales, namely: Involvement (F(1,100) = 4.29, p <.05), Support (F(1,100) = 5.60, p <.05), Order and Organisation (F(1,100) = 4.22, p <.05), Programme Clarity (F(1,100) = 19.40, p <.001), and Staff Control (F(1,100) = 32.13, p <.001). Staff had higher scores on the

subscales of Involvement, Order and Organisation, and Programme Clarity, whilst patients rated the subscales of Support, and Staff Control more highly. The findings indicated that the structure of the unit, patients' compliance with routines, and expectations of behaviour played an important part in the differences in perceptions of ward climate (Caplan, 1993). Zamir et al. (2016) also examined staff and patient perceptions of social climate using the WAS. They found that staff scored more highly on the majority of the subscales, with patients rating the subscales of Order and Organisation, Programme Clarity, and Staff Control more highly.

In contrast to their original hypothesis, Langdon et al. (2006) found some patient ratings to be significantly higher for the Support ($F(1,52) = 4.40$, $p < .041$), Involvement ($F(1,52) = 21.96$, $p < .000$), Personal Problem Orientation ($F(1,52) = 7.75$, $p < .008$), and Staff Control ($F(1,52) = 30.43$, $p < .000$) subscales of the CIES than staff ratings. However, patient ratings for the Practical Orientation ($F(1,52) = 22.57$, $p < .000$) subscale were significantly lower than staff ratings. Langdon and colleagues suggest that differences in patient and staff ratings are due to their different perspectives of the social climate. They propose that: staff might perceive the environment more negatively due to them being unaware of the role they play in contributing to social climate; staff perceptions of the workplace might (consciously or unconsciously) impact upon their views of social climate; different patient characteristics may account for different perspectives; and staff may have higher expectations regarding what they view as a positive social climate. The last point could be examined via similar methods to Middleboe et al. (2001).

Conversely, Willets et al. (2014) found no significant differences in patient and staff ratings of social climate in an IDD service ($F(3, 90) = 0.805$, $p = 0.494$; Wilks' $\lambda = 0.974$; partial $n^2 = 0.026$). However, they advise caution when interpreting their results as the EssenCES is yet to be validated with individuals with IDD (Tonkin, 2016). Also, Morrison et al. (1997) found a correlation between patient and staff ratings in the majority of the subscales of the CIES. There were significant differences between patient and staff ratings in the subscales of Autonomy, and Practical Orientation ($p < .05$) where staff rated these more positively than patients. The subscale ratings of Staff Control were also significantly different between patients and staff ($p < .01$), although both groups agreed that there was a low level of staff control on the unit; Morrison and colleagues recommend that note be taken of this discrepancy. They conclude that, given the congruence of social climate ratings between the two groups, the staff had made particular efforts to provide patient-centred care and both groups had placed an emphasis on the relationship dimension of the CIES. However, the

sample size of patients was small (n=11) compared to the number of staff participants who completed the social climate measure (n=40).

The studies reported mixed findings in terms of differing staff and patient ratings of social climate within the same settings. However, perhaps this should be expected given that patients and staff are within the settings for different reasons and will therefore view the environment from different perspectives (Røssberg & Friis, 2004).

What factors influence ratings of social climate? Security setting is one factor which appears to influence ratings of social climate. Langdon et al. (2006) found significant differences in some CIES subscale ratings between units with different levels of security. Both patients and staff from the low secure unit rated the Practical Orientation ($F(1,52) = 5.01$, $p < .03$) and Personal Problem Orientation ($F(1,52) = 18.65$, $p < .00$) subscales significantly higher than those from the medium secure unit, indicating that the low secure unit may be more focused on developing patients' independent living and problem-solving/emotion management skills. Similarly, Long et al.'s (2011a) research examined patient and staff perceptions of social climate using the EssenCES. They found significant differences in the total patient ratings between the medium secure admission and treatment wards ($z = 3.45$, $p < .001$), and low secure personality disorder ($z = 4.1$, $p < .001$) and recovery ($z = 3.88$, $p < 0.001$) units. Patient ratings of social climate were significantly higher in the low secure settings ($F(3,41) = 2.983$, $p < .042$; Wilks' $\lambda = 0.821$; partial $n^2 = 0.179$); all of the EssenCES subscales received lower patient ratings on the medium secure units. Staff also scored the medium secure units significantly lower on the three EssenCES subscales than the low secure wards. Willets et al. (2014) explained that, by their nature, higher secure settings support patients with more complex mental health needs and have greater restrictions meaning they are more likely to be negatively rated than lower security wards.

Willets et al. (2014) gathered data from patients and staff working in IDD and non-IDD low and medium secure wards using the EssenCES. It was not possible to compare this data with the normative sample of Schalast et al. (2008) which was gathered in a German hospital where different rules and regulations govern such institutions. Instead the data were compared with that gathered by Howells, et al. (2009), although Willets et al. (2014) advise caution when interpreting the comparisons as Howells' patient participants resided within a Dangerous and Severe Personality Disorder (DSPD) high secure service. Willets and

colleagues found that patient scores were highest for the patients in IDD services, although there was no significant difference in the patient scores between IDD and non-IDD services ($F(3,60) = 0.628$, $p < .600$; Wilks' $\lambda = 0.970$; partial $n^2 = 0.030$). Staff scores were significantly higher in non-IDD services in comparison to IDD services ($F(3,69) = 4.698$, $p < .005$; Wilks' $\lambda = 0.830$; partial $n^2 = 0.170$). This might relate to the increased challenges that staff face in building relationships with individuals with IDD due to their social skills deficits (Kavale & Forness, 1996), together with the increased likelihood of challenging behaviours.

Brunt (2008) found that patients and staff on female units tended to rate the social climate more highly than those on the male units. This finding is corroborated by Dickens et al. (2014) who investigated the relationships between patient gender, engagement in treatment, perceived risk and risky behaviour, psychopathology, and social climate. They discovered that gender, security level of the unit, and the patients' Historical Clinical Risk-Management-20 score (HCR-20; Douglas, Hart, Webster, & Belfrage, 2013), a structured clinical measure of violence risk assessment, accounted for a significant level of variance for the EssenCES dimension of Patient Cohesion. For the Experienced Safety domain, gender and security level were significantly related as was the presence of psychosis and personality disorder. Regarding the Therapeutic Hold dimension, the level of security was a predictor of this domain; however, session attendance was negatively correlated with social climate ratings. This may mean that individual therapeutic sessions do not in themselves contribute to positive perceptions of ward climate, but that the quality of day-to-day interactions between patients and staff has more of an impact. These findings indicate that single-sex wards might be a contributing factor to positive social climate, although Dickens et al. (2014) faced similar issues as Brunt (2008) where males were more diverse in terms of their mental health diagnoses.

Eggert et al. (2014) recruited a total of 879 participants (353 staff and 526 patients) to examine ratings of social climate and staff burnout across three time periods. The experimental group were moved to a newly-designed hospital setting and the control group remained in their usual setting. The only significant effect for time period was on the EssenCES dimension of Experienced Safety ($F(2, 700) = 3.8$, $p < .024$). Eggert and colleagues hypothesised that increased ratings of social climate would correlate with increased job satisfaction in staff; this was not the case. The study highlighted that the design of the ward environment had a limited effect on ratings of social climate. Tuvesson et al. (2011) examined how ward atmosphere might be related to the psychosocial work

environment by obtaining nursing staff's ratings. The WAS subscales of Personal Problem Orientation and Programme Clarity were found to be important for the nurse's views of Empowering Leadership on the QPSNordic 34+, a psychosocial environment questionnaire, although the correlations were small to moderate. Tuvesson and colleagues suggest these relationships to be circular; achieving higher ratings in the WAS subscales might increase staff's perceptions of their working environment thereby leading to greater job satisfaction and a more positive social climate.

Regarding the patient-staff relationships within psychiatric settings, some studies within the current review examined the relationships between the therapeutic alliance and social climate ratings (Johansson & Eklund, 2004; Long et al., 2011a). Both studies found significant correlations between patients' ratings of the therapeutic relationship with staff and perceptions of ward atmosphere. These will be discussed in more detail shortly, given their potential links with treatment outcomes.

The studies highlight that a range of factors influence ratings of social climate such as the security level of the unit, patient characteristics, and patient-staff relationships in particular.

Is there a relationship between ratings of ward atmosphere and patients' treatment outcomes? Beazley and Gudjonsson (2010) examined the relationship of depression and ward atmosphere in influencing patient motivation using the WAS. They found that patients who were depressed reported lower levels of motivation and lower ratings of ward atmosphere. Within the Patient Motivation Inventory (PMI; Gudjonsson, Young, & Yates, 2007), the subscales of *Internal Motivation* and *No Confidence in the Unit* significantly correlated with the ward atmosphere total score but the *Feelings of Failure* subscale did not. A regression model revealed that 'depression affects motivation through ward atmosphere, and ward atmosphere affects motivation through depression' (p.4). As such, Beazley and Gudjonsson concluded that depression and ward atmosphere are factors which have to be addressed together. Although the study did not directly examine social climate and its influence on treatment outcomes, the relationship with motivation suggests that perceptions of ward atmosphere have an impact on patients' levels of engagement. Beazley and Gudjonsson's patient sample resided within a medium secure unit; given that other studies have highlighted differences in social climate ratings across different security

settings (e.g., Langdon et al., 2006; Long et al., 2011a), it would be interesting to see whether Beazley and Gudjonsson's study revealed similar findings if replicated in a low secure unit.

Campbell et al. (2014) found a significant positive correlation between patient perceptions of ward climate and service attachment ($r = 0.61$, $p < 0.01$). In addition, they found a significant negative correlation between attachment avoidance and perceptions of social climate ($r = -0.25$, $p < 0.05$), indicating that lower ratings of social climate were associated with higher levels of attachment avoidance. Campbell and colleagues found the Therapeutic Hold subscale of the EssenCES to be independently related to patients' service attachment ($\beta = 0.60$, $p < .001$) and discussed the important role that patient-staff relationships play in patients' attachments to services and the influence this can have on their levels of engagement. Although no direct relationship was found with treatment outcomes, Campbell et al. (2014) claim that positive relationships can effectively encourage patients to engage in treatment. However, one might question whether higher levels of service attachment may also create higher levels of patient dependence on the staff/organisation. This might mean that some patients may 'sabotage' their treatment progress in order to remain within the 'safe' environment of the hospital.

Bressington et al. (2011) assessed the relationship between satisfaction of services and ratings of the quality of the therapeutic relationship using the Helping Alliances Scale (HAS; Priebe & Gruyters, 1993) which examines: patients feeling respected, patients' beliefs that they are receiving appropriate treatment, and feeling understood by unit staff. They found that just over half of the domains of the FSS had significantly medium to strong correlations with the HAS domains (ranging between 0.50-0.73). As levels of service satisfaction were also correlated with a number of the EssenCES domains in the study it could be argued that positive perceptions of social climate also influence higher ratings of the therapeutic alliance, which could increase patients' levels of engagement in treatment. Unfortunately, Bressington et al. (2011) did not examine the relationship between the HAS and EssenCES domains in their study.

Nonetheless, two studies did examine correlations of ward atmosphere scores with ratings of the therapeutic alliance (Johansson & Eklund, 2004; Long et al., 2011a). This is an important area of investigation seeing as the therapeutic alliance has been found to influence treatment outcomes (e.g., Marshall & Serran, 2004). Using the COPES, Johansson and Eklund (2004) found that all subscales, apart from Staff Control, significantly correlated with

ratings of the therapeutic alliance. Their results also showed that patients with diagnosed personality disorders and substance misuse issues were less able to form good helping relationships with staff. This suggests that people with more complex mental health presentations might not rate social climate as highly as other patients (as in Brunt, 2008) and that their difficulties in building relationships with staff might impact upon their treatment outcomes. Long et al. (2011a) found that the EssenCES total score significantly correlated both with patient motivation and treatment engagement ($r = 0.38$, $p < .001$), and the therapeutic alliance ($r = 0.49$, $p < .001$) which further reinforces the role that social climate plays in influencing treatment outcomes. Such ratings tended to be higher in lower secure units when compared to medium security settings, a difference which has been discussed previously.

Eggert et al. (2014) also found that high ratings in the Experienced Safety domain (which were linked to the new hospital environment) were correlated with patient discharges ($r = 2.2$, $p < .05$). However, Eggert and colleagues suggest that some patients may have been moved from the hospital prematurely due to pressure to admit new patients. Nevertheless, they propose that patients' feelings of safety within the hospital environment can enable them to focus more readily on treatment and benefit from interventions.

Whilst the physical environment of a ward has a limited effect on ratings of social climate and treatment outcomes, the results of these papers emphasise that social climate is significantly correlated with the staff-patient alliance and patients' motivation to engage in treatment, which in turn are linked to treatment outcomes.

Is there a relationship between ratings of ward atmosphere and incidents of aggression? Only a small proportion of articles in the current review specifically investigated social climate and its links to aggression. Bowers et al. (2009a) examined the relationship between patient aggression and a range of variables including service environment, physical environment, and staff demographics. Increased levels of aggression were significantly associated with: door locking practices on units; seclusion; high patient turnover; and high staffing numbers. Lower levels of aggression were related to: positive staff attitudes; lower rates of staff burnout; and higher levels of order and organisation. Despite these results, Bowers and colleagues emphasise that correlation does not equal causation and that the cross-sectional nature of their study should be taken into account. They also suggest that further

research is required into why higher staffing levels had an impact on the frequency of aggressive behaviours. Lanza et al. (1994) found higher scores on the WAS subscale of Staff Control to be linked to patient assaults, indicating that higher staffing levels might be perceived by patients as an attempt to exert greater control over them. However, the score for the Staff Control subscale was not explored in Bowers' study.

McCann et al. (2015) used the EssenCES to assess the perceptions of staff working across three psychogeriatric units. The mean total EssenCES score of the units was calculated as 36.8 (*SD* = 5) which McCann and colleagues described as 'somewhat positive'. They found these ratings to be higher (i.e., more positive) than those reported in other studies (Howells et al., 2009; Schalast et al., 2008) and acknowledge that this may be because aggression is more problematic within forensic settings. McCann and colleagues concluded that a more person-centred approach was required in psychogeriatric settings in order to help promote a more supportive environment, including the prevention of patient aggression. However, there was no analysis conducted into the possible associations between the EssenCES scores and incidents of aggression across the three units. Furthermore, the EssenCES was not completed with the patients. This may have given a clearer indication of their perceptions of the social climate and the possible reasons for aggression on the units. However, the patients had been assessed as not being well enough to consent to participate. The authors highlight the lack of social climate research within old age psychiatry, and the importance of ascertaining patients' views.

A study by Ching, Daffern, Martin, and Thomas (2010) investigated the impact of a reduction in seclusion practices within a forensic setting, further to a period of staff training, upon a range of factors including the social climate. They found that staff and patient ratings on the EssenCES subscales remained fairly consistent pre and post staff training. The one significant finding was that of the slight reduction in the patients' score for the Patient Cohesion subscale after the staff training; the reason for this was not explored. It should be noted that despite a reduction in episodes of seclusion, levels of patient aggression remained consistent which might account for the similarity in EssenCES scores pre and post staff training.

Johnson et al. (1997) explored the factors that patients believed influenced their aggression. The factors were found to be: *Hospital*, meaning a lack of space/freedom; *People*, referring to how staff members interacted with patients; *Policies*, relating to the restrictions

on patient freedoms; *Feeling Powerful and Powerless*, where the act of aggression served to make the patient feel powerful in a seemingly powerless situation; *Aggressive Behaviour Despite having Coping Strategies*, where environmental factors may override the patients' abilities to cope in provoking situations. Johnson and colleagues concluded that the external environment (including staff members) had a part to play in patients' aggressive behaviours. In another qualitative study, van Wijk et al. (2014) explored patients' perceptions of the reasons for their aggressive behaviour. Their analysis elicited themes relating to: *Environmental Conditions*, such as unhygienic living conditions, the quality of the food, ward rules, lack of structured activities, and noise levels; *Ward Atmosphere*, including the use of medication to manage the patients, staff not being available, and staff not respecting the culture/religion of the patients; and *Nursing-staff factors*, which included the attitude and behaviour of the nursing staff who often presented with rigid and intolerant attitudes towards the patients.

Ros et al.'s (2013) results indicate that the more open the institutional climate, the lower the number of aggressive incidents ($r = -.256$, $p < .05$), which is corroborated by Long et al. (2011a). In addition, higher ratings of staff support ($r = -.252$, $p < .05$) and atmosphere ($r = -.241$, $p < .05$) were significantly linked to lower levels of aggressive behaviour, a finding which contrasts with that of Bowers et al. (2009a). Ros and colleagues recommend that the relationships between interpersonal interactions and aggressive behaviours be examined further, emphasising the importance of 'work climate' when exploring ways in which to reduce aggression. They highlight a limitation of their study to be that the PGCI-SF measure, although derived from the validated PGCI (van der Helm et al., 2011), was not itself validated at the time the study was conducted. As such, the results of Ros' study should be interpreted with caution.

One of the variables that Dickens et al. (2014) examined regarding its relationship to social climate was the patients' HCR-20 (Douglas et al., 2013) risk assessment scores. Whilst the clinical items' scores did not indicate a significant negative correlation with the Patient Cohesion subscale of the EssenCES, there was a significant negative correlation ($\beta = -.169$, $p < .027$) with the total HCR-20 score (i.e., the higher the HCR-20 score, the lower the rating of Patient Cohesion). Whilst the study did not specifically examine social climate and the frequency of aggressive behaviours, the results suggest that poor ratings of Patient Cohesion from individuals who are at higher risk of committing violent acts may lead to increased levels of aggression. Additionally, Middleboe et al.'s (2001) study did not aim to examine the

relationship between social climate and aggression, but their study found that patients in locked units rated levels of anger and aggression on the WAS more highly than those in the open units ($t = 3.8$, $p < .001$).

Perhaps conversely, Long et al. (2011a) stated that the EssenCES total score was significantly correlated to the number of risk behaviours on the unit ($r_s = 0.29$, $p < .01$). Broken down into the individual dimensions the results were: Patient Cohesion ($r_s = 0.27$, $p < .01$) and Experienced Safety ($r_s = 0.27$, $p < .01$); there was no significant correlation between Therapeutic Hold and risk behaviours. However, these results suggest that as social climate ratings increase (i.e., become more positive), so do risk behaviours. Long et al. (2011a) do not comment on these results as being unusual so further investigation would be necessary to ascertain whether there was an error in the presentation of the results. Given previous discussions regarding social climate ratings across security settings, it is not surprising that Long et al. (2011a) found aggressive behaviours to be more prevalent on higher secure units than low secure wards. They found that the medium secure admission unit had significantly higher levels of incidents than the low secure borderline personality disorder unit ($z = 2.02$, $p < .05$) and low secure recovery unit ($z = 2.03$, $p < .01$). These results may, in part, be influenced by the greater levels of restrictions on higher security units, and the more complex presentations of the patients.

The research indicates that social climate has an impact upon aggressive behaviours; however, there are different variables which more than likely interact with one another such as staff attitudes, patient characteristics, and level of security. It may therefore be difficult to ascertain which variables influence aggressive behaviours more than others.

Are there reliable and valid measures of social climate? The majority of authors of the included studies only make reference to previous studies when discussing the reliability and validity of the social climate measures they used. Regarding those studies which used the WAS, Beazley and Gudjonsson (2010) confirmed the assessment to have an observed alpha level of 0.82 meaning that the subscales have good reliability and validity. However, Tuvesson et al. (2011) found that the alpha levels of the six WAS subscales they used within their study ranged from 0.53-0.69. In addition, Bakken et al. (2012) found that for participants with mild-moderate IDD the WAS subscale of Support did not show good internal consistency as estimated by Cronbach's alpha (<0.50). For the participants with

moderate IDD the subscales of Angry and Aggressive Behaviour, and Order and Organisation did not show acceptable internal consistency (<0.50). These results suggest that the WAS is not a reliable and valid assessment to use with individuals with IDD and that the assessment may need to be adapted if it is to elicit accurate results from this client group.

With regards to the EssenCES, both Bressington et al. (2011) and Eggert et al. (2014) discussed the original research by Schalast et al. (2008) who reported corrected item total correlation coefficients ranging from 0.49-0.75 and state the measure to have internal reliability ranging from 0.73-0.87 as measured by Cronbach's alpha. Howells et al. (2009) also established the measure's reliability and validity. In terms of the COPES, Johansson and Eklund (2004) reported good test-retest reliability and content and face validity making reference to Moos' (1988) study, whilst Langdon et al. (2006) and Morrison et al. (1997) direct readers to previous research by Moos (1987) as to the CIES' internal consistency and test-retest reliability. Ros et al. (2013) used the Prison Group Climate Inventory-Short Form (PGCI-SF), which was derived from the PGCI (van der Helm et al., 2011). The reliability of the PGCI-SF scales was found to be good for Support ($\alpha = .865$, $\lambda 2 = .877$), Growth ($\alpha = .867$, $\lambda 2 = .870$), and Atmosphere ($\alpha = .846$, $\lambda 2 = .853$), and sufficient for Repression ($\alpha = .606$, $\lambda 2 = .612$). However, the authors concede that the measure had not been validated at the time their study was conducted.

Whilst the majority of social climate measures appear to have good reliability and validity, the WAS performed poorly when administered to individuals with IDD. In addition, the number of items in this measure is such that it might prove onerous to complete with some client groups, including individuals who have cognitive deficits. Røssberg and Friis (2003) recommended revisions due to the outdated phrasing of some items which might impact upon the measure's psychometric properties. Despite most of the studies referencing the original study by Schalast et al. (2008) when commenting on the reliability and validity of the EssenCES, other research has been conducted which confirms the measure's psychometric properties with populations in the United Kingdom (e.g., Tonkin et al., 2012). The measure's reliability has also been confirmed with the IDD population although its validity with this client group requires further investigation (Quinn et al., 2012).

The final section will outline the main findings and strengths and weaknesses of the review, implications for practice, and conclusions.

Discussion

Main findings of the review

This review explored perceptions of social climate in secure mental health and/or forensic service settings, and examined the influence that perceptions of social climate have on different variables such as patients' motivation to engage in treatment, the therapeutic alliance, and aggressive behaviours.

The results indicate that ratings of social climate are linked to factors such as the security level of the setting (e.g., Langdon et al., 2006); staff-patient relationships and patient motivation (e.g., Long et al., 2011a); and patient characteristics such as mental health diagnoses (e.g., Brunt, 2008). Some studies found that staff and patients' ratings differed which might be because they are on wards for different reasons (e.g., Røssberg & Friis, 2004). Other studies found staff and patient ratings to be similar; however, these results might be due to small sample sizes (e.g., Morrison et al., 1997) and different ways of working within more specialised services (e.g., Willets et al., 2014). Positive perceptions of social climate were found to be related to lower incidents of aggression (e.g., Ros et al., 2013), and two studies found that the external environment, including staff, played a part in patients' aggressive behaviours (Johnston et al., 1997; van Wijk et al., 2014). In contrast, Long et al.'s (2011a) results suggested that aggression increased with more positive perceptions of social climate. One would not expect a greater frequency of aggression if patients were satisfied with their environment; therefore, Long's results need further clarification.

Whilst the studies reported good reliability and validity of the social climate measures, the majority only made reference to studies conducted by the people who developed the measures. The WAS has proved to be unreliable when administered to patients in the IDD population (Bakken et al., 2012) and may need revising to improve its psychometric properties (Røssberg & Friis, 2003). The COPES and CIES were developed from the WAS so these assessments may also need to be reviewed. The EssenCES has demonstrated good internal consistency and convergent validity with other social climate measures and has been validated for use with populations in the United Kingdom (e.g., Howells, et al., 2009; Tonkin et al., 2012). Although it has shown good reliability with individuals from the IDD population its validity still needs to be assessed (Quinn et al., 2012).

Most of the studies used cross-sectional designs which only gather data from one period of time. Thus, no evidence can be gathered as to the temporal relationships between cause and effect, as discussed by Carlson and Morrison (2009). Additionally, the majority of studies were conducted with patients and staff within non-IDD settings indicating an underrepresentation of participants with IDD in the current review; lack of research with this client group has been highlighted in existing research (e.g., Willets et al., 2014). Further social climate studies are also required within old age psychiatric settings, as emphasised by McCann et al. (2015). Of the studies that discussed the ethnic diversity amongst their participants, the majority were categorised as White British. This is not necessarily a deliberate exclusion of patients from ethnic minorities, but may be more of a reflection of the stigma attached to mental health difficulties in people from such ethnic groups. Gary (2005) discusses that this stigma might prevent them from coming to the attention of such services.

Strengths and weaknesses of the review

The main weaknesses of the current review are that unpublished dissertations and theses were excluded which might have impacted upon the number of relevant articles that were identified; this will also have introduced publication bias into the review. Despite this, hand searches of all relevant articles were conducted as well as contacting experts in the field of study, which should mean that most of the relevant research articles were included in the current review. However, six papers identified through the hand searches could not be obtained; some may have been of sufficient quality to add to the current review thereby bringing additional information to the data synthesis. The contacting of experts will also have brought some selection bias into the review. This process may mean that only papers which support the viewpoint of the reviewer are retrieved; however, Torgerson (2003) explains that this method may also highlight studies which have been accepted for publication, but have not yet been published.

The strengths of the review are that a robust search strategy was employed, together with utilising a second rater for a proportion of the research articles during the quality screening process. The publication for this review can be found in Appendix 20.

Implications for practice and future direction

The current review emphasised the importance of social climate in terms of patient satisfaction with services (e.g., Bressington et al., 2011); motivation to engage in treatment (e.g., Beazley & Gudjonsson, 2010); incidents of aggression (e.g., Johnson et al., 1997); and patient-staff therapeutic relationships (e.g., Johansson & Eklund, 2004). Given the fact that people detained in psychiatric services are vulnerable, it is the responsibility of services to improve the social climate and reduce the frequency of problem behaviours such as aggression. Equally, organisations have a responsibility to ensure that staff are working within a positive environment. Negative staff attitudes/issues of burnout can impact upon the way in which staff interact with patients and contribute to incidents of aggression (e.g., Papadopoulos et al., 2012).

Whilst individual interventions may increase patient satisfaction, these would not necessarily be cost-effective for services. As such, research indicates that the overall focus should be on developing the day-to-day interventions that staff provide and *how* they provide them. This highlights the need for services to ascertain staff training and/or support needs in order that they have the necessary skills with which to develop more positive ward climates; the papers in the current review highlight the need for both interpersonal and technical skills. It might also be advisable to undertake service evaluations to establish whether patients are being offered adequate treatment interventions and therapeutic activities. When considering a framework on which to base the improvement of social climate, Ward and Brown's (2004) Good Lives Model (GLM) might be a good starting point. This strengths-based approach aims to enable individuals to attain 'primary human goods' (p. 246) and reduce their risk of reoffending. Ward and Brown suggest nine primary human goods: *life*; *knowledge*; *doing well in leisure activities and work*; *being autonomous*; *being free from stress*; *having healthy relationships*; *spirituality*; *happiness*; and *creativity*. Some of these appear to overlap with the domains measured by the WAS and EssenCES, which could themselves be used when assessing how services can more effectively meet the needs of their patients. Furthermore, greater attention may need to be directed towards organisational frameworks such as TIC (SAMHSA, 2014) and PIPEs (e.g., Turley et al., 2013) which were explored in Chapter 1, in terms of their utility within different service settings. Services that implement such frameworks are more likely to see increases in patient motivation, more effective treatment outcomes, increased collaboration in staff-patient relationships, and lower levels of aggression. All of the above would also apply to IDD services and service-users, who were

under-represented in the current review. As such, future research into perceptions of social climate should make efforts to include participants from IDD services.

Further work also needs to be completed to assess the reliability and validity of social climate measures. Revision of the WAS has already been recommended (Røssberg & Friis, 2003) and its applicability across settings and client groups requires further investigation (e.g., Tonkin, 2016). Given that the EssenCES is a relatively short measure to administer, this might be more appropriate to use with IDD populations. However, it also requires validation with this patient group (Quinn et al., 2012) and is yet to be validated in low secure settings, women's services, and young offender institutions (Tonkin, 2016).

Conclusions

The review has clarified the importance of social climate in mental health and forensic services and how it may link to more positive working relationships, treatment outcomes, and lower levels of aggression. Tuvesson et al. (2011) highlighted the circular relationship between social climate and these variables. In other words, perceptions of social climate may influence, for example, the frequency of aggression, but equally the level of aggression may impact upon the social climate. As such, social climate is something which organisations should be monitoring for the benefit of both patients and staff. Studies elicited mixed findings regarding differences between staff and patient perceptions of social climate, although such research may be of limited value; one should expect differing perspectives between staff and patients given their different reasons for being within such services (Røssberg & Friis, 2004). Whilst there are reliable and valid measures of social climate available, further research needs to be conducted to clarify the psychometric properties of such measures and broaden the client groups and settings with which their use is applicable. Few studies within the current review investigated the relationship between social climate and levels of aggression; an issue which requires ongoing management within services. In addition, only a small number of studies obtained social climate data from IDD populations. Both of these areas require further examination, especially as there may be increased behavioural issues in IDD services given such individuals' cognitive deficits and difficulties in emotion regulation and management.

CHAPTER 3: THE ESSEN CLIMATE EVALUATION SCHEMA (ESSENCES): A PSYCHOMETRIC CRITIQUE

Introduction

Chapters 1 and 2 explored how social climate may influence the level of aggression within secure forensic services (e.g., Meehan et al., 2006) and that certain frameworks may reduce this problem in certain settings (e.g., SAMHSA, 2014). The term 'social climate' comes from the notion of therapeutic environment, or climate, as described by the World Health Organisation (WHO, 1953). Wright (1993) refers to it as the characteristics of an environment that set it apart from other settings, and can also be known by such terms as 'ward atmosphere' and 'social environment'. Research has found that environmental characteristics such as staff-patient relationships (e.g., Fish & Culshaw, 2005); the functionality of a ward (e.g., Long, Langford, Clay, Craig, & Hollin, 2011b); the personality traits of patients (e.g., Meehan et al., 2006); and the security level (e.g., Langdon et al., 2006) can influence perceptions of that environment. Given the limitations of some social climate measures, this chapter aims to review and critique a more recently-developed assessment called the EssenCES (Schalast et al., 2008). There will be an overview of the measure, an examination of its psychometric properties and how it compares to other social climate measures. Finally, conclusions will be drawn regarding its effectiveness within clinical research.

Several assessments have been devised to measure social climate. One such assessment, which has been considered the standard measure for assessing social climate, is the WAS (Moos & Houts, 1968). This assessment contains 100 items and 10 subscales, namely: *Involvement*, meaning the extent to which patients feel involved in the running of the ward; *Support*, relating to how much the patients feel supported by staff; *Spontaneity*, regarding the degree of patients' spontaneous behaviour; *Autonomy*, meaning the level of responsibility given to patients; *Practical Orientation*, meaning how much the patients are supported to develop practical skills for re-integrating into the community; *Personal Problem Orientation*, relating to how much the patients are encouraged to understand their difficulties; *Anger/Aggression*, regarding the level of patients' angry and aggressive behaviours; *Order/Organisation*, relating to how much importance is placed on the organisation and running of the ward; *Programme Clarity*, meaning how clear the policies and procedures are to the patients; and *Staff Control*, referring to how much the staff have to implement

procedures in order to maintain control of the unit. Given the number of items and subscales, the WAS could be a lengthy assessment to complete. In addition, Røssberg and Friis (2003) highlighted other limitations such as the outdated language of some items (e.g., 'It is a good idea to let the doctor know that he is the boss') and low internal consistency and discrepancies amongst the scales. As such, Røssberg and Friis (2003) recommended that the assessment's reliability and validity be improved by removing 16 items from the subscales and altering the true/false answer format to a four-point rating scale. The removal of items improved the internal consistency of the subscales and the participants were positive regarding the changes to the rating scale. Consequently, Røssberg and Friis recommended that these changes would make the WAS a more clinically meaningful assessment. The CIES (Moos & Schaefer, 1987) is a 90 item true/false questionnaire comprising of nine subscales each containing 10 items, and the COPES (Moos, 1972) assesses the social environment of community-based treatment programmes using 100 true/false statements divided into 10 subscales. These are both derived from the WAS, meaning they may also need to be reviewed.

Overview of the EssenCES

Schalast (1997) devised a list of 15 items incorporating aspects of the working environment. Statistical testing revealed three proposed climate traits: Q*uality of the living environment*, *Experienced safety*, and *Feeling of success in therapeutic work* (Schalast & Tonkin, 2016). Pilot tests were followed by further testing of the scale (e.g., Schalast, 2008). Schalast and Tonkin (2016) describe how scale and factor analyses were utilised to identify the climate traits that proved stable across different populations (e.g., staff and patients). The EssenCES (Schalast et al., 2008) was borne out of this process (Appendix 9). The scale contains 17 items which are answered using a five-point ordinal scale where responses are ranked, or ordered (Kline, 2000). There are three subscales incorporated into the EssenCES, with five items corresponding to each subscale; two items (1 and 17) are filler items (Schalast & Tonkin, 2016). The number of items under each subscale might not be enough to measure each construct effectively. Indeed, Kline (2000) recommends that subscales should have a minimum of 10 items in order to be able to assess a construct reliably, and that having too few items may mean that some aspects of the construct are missed from the assessment. The answers that respondents can give are *I agree: Not at all, Little, Somewhat, Quite a lot,* and

Very much. Answering the assessment could be confusing for some responders, such as those with cognitive impairments, due to the poor use of English for the answers especially the *I agree not at all* option. Furthermore, the ordinal scale only measures agreement in one direction. This does not give respondents the opportunity to disagree with any of the items, which they could do if the assessment used, for example, a Likert scale (Likert, 1932). As such, this could lead to ratings which are perhaps more positive than they are in reality.

The first subscale is *Therapeutic Hold*, which means the extent to which the environment is perceived to be supportive of patients' needs. The importance of the therapeutic alliance was first highlighted by Rogers (1961) and has been explored in the psychotherapy literature (e.g., Orlinsky, Ronnestad, & Willutzki, 2004). Schalast and Tonkin (2016) explain that staff members' qualifications and motivation could affect the extent of therapeutic hold that is provided to patients, especially those who present with such conditions as personality disorder where they may try to manipulate and/or mislead staff. Schalast and Tonkin also state that the patient's ability to perceive and accept this support from staff is important; this may not be possible if individuals are particularly unwell. A potential problem with the construct of therapeutic hold is that whilst it might be applicable within individual therapy the extent to which this level of relationship can exist, and therefore be measured, within secure mental health services with multiple people residing together is unclear. This subscale would therefore benefit from a clearer definition of what factors in the environment would constitute therapeutic hold. The second subscale is *Patients' Cohesion and Mutual Support*, which examines the presence of mutual support between patients. This can be difficult to implement due to the fact that most patients are in services due to being a risk to themselves and/or others (Schalast & Tonkin, 2016). Schalast and Tonkin also explain that staff might feel threatened by patients who are supportive of one another in case this leads to patients collectively 'turning' on staff and/or the hospital regime. It is unclear as to whether the assessment could accurately assess this aspect of social climate within mental health services. Given the unstable presentation of many patients, unit dynamics can change from one day to the next. It may be that patients are not cognitively able to support one another which may not necessarily be a reflection of the environment or the quality of relationships, but due to their diagnoses. The third subscale is *Experienced Safety*, meaning the patients' perception of threat of violence from other patients. Schalast and Tonkin (2016) warn that this subscale should not be confused with security (e.g., locked doors). Indeed, Schalast et al. (2008) found that higher levels of such security were related to individuals

feeling *less* safe within their environment. From a staffing point of view, Schalast and Tonkin (2016) suggest that sufficient staffing levels and a treatment programme that is implemented to a good standard might help to make staff feel safer within their working environment.

To complete the EssenCES, individuals are asked to read each item and indicate the extent to which they agree with each statement by choosing the relevant answer on the scale; each answer is given a score between 0-4. The subscale score is calculated by adding the item responses for that subscale. The minimum score for each subscale is 0 and the highest is 20. High scores indicate a positive perception of social climate and low scores suggest a negative perception of social climate (Schalast & Tonkin, 2016). Once the assessment has been scored assessors should refer to the appropriate table contained within the manual (depending on setting and population) in order to ascertain whether the individual's scores under each subscale can be classified as: Clearly below average; Somewhat below average; Average; Somewhat above average; or Clearly above average, when compared with the normative sample (i.e., either psychiatric or prison setting). Schalast and Tonkin (2016) are keen to stress that the scores from the EssenCES should not be used to indicate how well staff and/or a particular service is performing, and that it would not be appropriate to compare the scores from one unit to those of another and determine that higher scores indicate a 'better' unit. Rather, the aim of the assessment is to examine how staff and patients feel about the environment in which they work/reside and what changes might need to be made to have a positive impact upon the environment.

Psychometric properties of the EssenCES

In his book, Kline (2000) discusses a number of attributes which help to make a psychometric test an effective one such as reliability, validity, and the presence of normative data. As such, research studies which have examined such psychometric properties of the EssenCES will now be discussed.

Type of scale. The EssenCES is comprised of an ordinal scale where answers are placed in rank order. Kline (2000) explains that the difficulty with such scales is that there is no way of knowing how far apart the subjects are from one another on the scale. Indeed, Nunnally (1978) dismisses the use of ordinal scales altogether, stating that it is difficult to

imagine that evidence-based research can be derived from using ordinal measurements. However, Kline (2000) states that the majority of tests used within psychological studies are based on interval data. Despite the fact that the points on scales such as these cannot be considered equal, Kline proposes that the distance *can* be presumed equal if the test has been appropriately developed. He argues this presumption to be reasonable as it enables researchers to conduct more complex forms of analysis that contribute further to the theory and practice in different areas of psychology. As such, although the EssenCES uses an ordinal scale this is treated as an interval scale for the reasons already stated.

Reliability and validity. The reliability of an assessment relates to its ability to measure its specific constructs in a consistent way and the validity of a psychometric assessment refers to whether the test is measuring what it says it measures (Kline, 2000). Due to the fact that there are differences in forensic psychiatric environments and correctional institutions, Schalast and Tonkin (2016) discuss separately the psychometric properties of the EssenCES as they relate to each of these settings.

Forensic psychiatric hospital settings. The 'internal consistency' of an assessment refers to the extent to which the questions measure the same/similar underlying concepts (Schalast & Tonkin, 2016) and is generally measured by using Cronbach's alpha (Cronbach, 1951). For the EssenCES, all of the subscales show 'adequate to excellent' internal consistency (Table 3.1). However, Schalast and Tonkin (2016) state that the internal consistency of the Therapeutic Hold subscale is slightly lower among staff when compared with patients. Scores from staff were generally positive and there was a low variance in scores. Schalast and Tonkin explain that this may occur if staff expect their performance to be assessed based on the results of the EssenCES, which may therefore compromise the validity of such assessments. Furthermore, some UK institutions are more reluctant than others to use the EssenCES as part of the Commissioning for Quality and Innovation (CQUIN) framework (Alderman & Groucott, 2012), which involves a proportion of a healthcare provider's income being dependent on them demonstrating certain improvements in the quality of patient care.

Table 3.1
Internal consistency of the EssenCES in UK (Tonkin et al., 2012) and German (Schalast et al., 2008) forensic psychiatric hospitals (Cronbach's α coefficient). Adapted from Schalast and Tonkin (2016).

	UK hospitals			German hospitals		
	Staff	Patients	Combined	Staff	Patients	Combined
n	272	167	439	333	327	660
Patients' Cohesion	.89	.90	.90	.76	.80	.78
Experienced Safety	.80	.78	.80	.78	.79	.79
Therapeutic Hold	.69	.76	.77	.73	.87	.86

The 'construct validity' of a psychometric assessment is where the results of the assessment are in agreement with the psychological nature of the construct (Kline, 2000). Within the UK sample, and using the Working Environment Scale-10 (WES; Røssberg & Friis, 2004), the scores on the EssenCES were found to be significantly related to how individuals perceived the working environment (Schalast & Tonkin, 2016). There were noted to be more incidents of aggression within settings which received low ratings of social climate, medium secure units received more positive social climate ratings than high-secure settings, and units with positive social climate ratings also perceived staff morale to be higher and stress levels as lower.

In terms of 'concurrent validity', Schalast and Tonkin (2016) discuss how the scores on the EssenCES within their German validation study (Schalast et al., 2008) correlated 'substantially' with scores on both the Good Milieu Index (GMI; Friis, 1986) and Ward Experiences Questionnaire (SEB; Sammet & Schauenberg, 1999) which they say supports the use of the EssenCES as a social climate measure. Quinn et al. (2012) examined the psychometric properties of the EssenCES with people with IDD. In terms of reliability, their results suggest that the measure might be suitable for use within IDD services and they reported that the scale also demonstrated adequate internal consistency. However, when testing the construct validity there were inconsistent differences between the low and medium secure patients' ratings on the subscales. Quinn et al. (2012) therefore concluded that the validity of the EssenCES requires further investigation with IDD client groups.

Howells et al. (2009) conducted an initial validation of the EssenCES with a UK sample in three high secure settings. Data were collected from 244 staff members and 80 patients. As well as the EssenCES, the Good Milieu Index (GMI; Friis, 1986); Ward Atmosphere Adult Measure (WAAM; Davies, personal communication, February 2005), which uses the definitions for the ten WAS subscales (Moos, 1997); and the Working Environment Scale (WES; Røssberg & Friis, 2004) were completed to help ascertain the construct validity, internal consistency, and three-factor structure of the EssenCES. Howells and colleagues' tests of construct validity revealed a number of statistically significant correlations between many of the subscales of each measure (Table 3.2); however, it was the subscale of Therapeutic Hold which showed the strongest statistical correlation with the subscales of the other social climate measures. This was followed closely by the Experienced Safety subscale. Howells et al. (2009) note that these correlations are broadly similar to those observed by Schalast et al. (2008) in their validation study. Despite the lack of such correlations between the Patient Cohesion subscale and other related subscales, see below, the results of Howell and colleagues' study support the validity of the EssenCES. In terms of internal consistency, the Cronbach's alpha (α) values fell between 0.72 to 0.82; acceptable α values should exceed 0.70 according to Helmstadter (1964). The Corrected Item-Total Correlation (CITC) ranged from 0.18 to 0.69. One item measured below the cut-off of 0.20 for CITC which was 'Most patients don't care about their fellow patients' problems', from the Patient Cohesion scale. When the item was removed the α value of the scale increased from 0.76 to 0.84, but Howells et al. (2009) state that all items were included within the analysis and the removal of the item did not significantly affect the overall alpha value for the scale. In terms of the factor structure, apart from the question 'Most patients don't care about their fellow patients' problems' from the Patient Cohesion scale, which attained a loading of 0.55, all other items achieved a loading of at least 0.66 on the factor established in Schalast and colleagues' (2008) original German version of the EssenCES. The three-factor structure was therefore confirmed.

Table 3.2
Bivariate correlations of the EssenCES scales with climate-related scales. Adapted from Howells et al. (2009).

	Patient Cohesion	Experienced Safety	Therapeutic Hold	EssenCES Total
GMI				
Satisfied with ward	0.22**	0.22**	0.42**	0.43**
Like staff	0.09	0.09	0.49**	0.30**
Like patients	0.17*	0.36**	0.24**	0.35**
Improve confidence	0.01	0.18*	0.40**	0.24**
See abilities	-0.00	0.15	0.53**	0.27**
GMI total	0.13	0.27**	0.56**	0.42**
WAAM				
Involvement	0.07	0.35**	0.36**	0.35**
Support	-0.01	0.45**	0.60**	0.45**
Spontaneity	0.07	0.25**	0.59**	0.43**
Autonomy	0.16	0.22**	0.36**	0.34**
Practical orientation	0.02	0.14	0.39**	0.28**
Personal problem orientation	-0.13	0.15	0.66**	0.31**
Anger and aggression	-0.53**	-0.36**	-0.04	-0.52**
Order and organisation	-0.18**	0.11	0.42**	0.14
Clarity	0.15	0.25**	0.30**	0.32**
Staff control	-0.14	-0.02	0.48**	0.14
WES-10				
(Lack of) self-realisation	-0.30*	-0.26*	-0.48**	-0.39**
Workload	-0.45**	-0.15	-0.22	-0.37**
Conflict	-0.31*	-0.18	-0.21	-0.36**
Nervousness	-0.49**	-0.24	-0.17	-0.45**
WES-10 Total	-0.50**	-0.20	-0.38**	-0.49**

*$p < 0.05$
**$p < 0.01$

Correctional institutions. Schalast and Tonkin (2016) focused upon the results from the Australian study (Day, Casey, Vess, & Huisy, 2011) in terms of the performance of the EssenCES in correctional settings, although similar findings were recorded in the UK and German studies. In terms of internal consistency, all subscales of the EssenCES indicated adequate internal consistency (Table 3.3) which confirms the reliability of the EssenCES as a social climate measure (Schalast & Tonkin, 2016).

Table 3.3
Internal consistency of the EssenCES in UK (Tonkin et al., 2012) German (Schalast & Groenwald, 2009) and Australian (Day et al., 2102) prison samples (Cronbach's α coefficient). Adapted from Schalast and Tonkin (2016).

	Inmates' cohesion	Experienced Safety	Hold and Support
English prison sample	.92	.79	.82
German prison sample	.77	.76	.85
Australian prison sample	.79	.68	.74

Regarding concurrent validity, statistically significant correlations were found between the EssenCES scores from UK prison data and the scores on the Working Environment Scale (WES-10; Røssberg & Friis, 2004), as well as with the CIES (Schalast & Groenewald, 2009). Schalast and Tonkin (2016) urge caution with the results, however, stating that further research is required in low-secure settings, more female units, and settings for juvenile offenders in order for the EssenCES to be confirmed as an appropriate measure of social climate in these settings.

Factor analysis. Kline (2000) describes factor analysis as a statistical method of deriving a smaller number of constructs from multiple variables and their varying scores. Tonkin et al. (2012) gathered data from UK psychiatric hospitals and their results indicated that the three-factor structure of the EssenCES was supported in hospital settings, with both patients and staff. In terms of correctional settings, the three-factor structure of the EssenCES was supported for both prisoners and prison staff. Milsom et al. (2014) confirmed the measure's factor structure and deemed it valid to use within medium-secure service settings. Similar findings were also apparent in the German research study (Schalast et al., 2008).

Face validity. Face validity is when a test superficially appears to be a good measure of the construct(s) (Kline, 2000). Whilst referring to Bornstein's (1996) discussion of this concept Schalast and Tonkin (2016) propose that the assessment does possess face validity; however, Kline (2000) warns that face validity is not related to true validity and that it is more important that each item is actually valid rather than being superficially valid. There

may be questions as to the face validity of the EssenCES given that the definition of, for example, the subscale of Therapeutic Hold may need to be more clearly defined.

Normative data. Kline (2000) proposes that a good psychometric test should have appropriate normative data. Such data enables users of the assessment to compare their participants' scores with those from a comparable group of individuals, so that appropriate inferences can be made from the results (Kline, 2000). Schalast and Tonkin (2016) describe how data was gathered from different normative samples in order to develop guidelines in the interpretation of EssenCES scores. They discuss that normative statistics for the EssenCES were calculated using the data gathered from English and German forensic psychiatric settings, as well as the data gathered from prisons in Australia, UK, Singapore, and Germany. These data provide clinicians with a benchmark against which to compare EssenCES scores depending upon the service setting in which they work.

United Kingdom data. The UK data were gathered from various forensic psychiatric settings and prisons. Data was obtained from a total of 33 wards across seven different services, with 441 patients and staff completing the EssenCES. In terms of correctional facilities, four prison services comprising 16 wings provided data from a total of 273 staff and prisoners (Tonkin et al., 2012). Schalast and Tonkin (2016) highlight that female and low-secure units were under-represented in the UK sample.

German data. This data was collected from 17 forensic psychiatric hospitals comprising 46 wards by Schalast et al. (2008). The majority of wards were either medium or high secure. A total of 333 staff and 327 patients completed the EssenCES, with the majority of patients being male. Data were also gathered from five prisons comprising 14 wings (Schalast & Groenewald, 2009).

Australian data. This data was gathered from two medium security prisons and comprised 132 prisoners (all male) and 102 staff (Day et al., 2011).

Singaporean data. The Singaporean prison service allowed the inclusion of results obtained from 322 prisoners from a large correctional unit (the study is unpublished). Staff data were not considered due to the staff sample being too small. Due to the data being

gathered from one setting, Schalast and Tonkin (2016) urge caution when making comparisons with other settings.

Tonkin (2016) reviewed existing measures of social climate and examined the psychometric properties of the more frequently-used measures, such as the WAS/CIES and the EssenCES. He indicated that the EssenCES received more empirical support and that there was evidence to confirm its effectiveness across differing populations (e.g., forensic psychiatric services, correctional institutions). However, Tonkin also advised that further research was needed in order to determine the validity of the EssenCES within different populations, namely: women's services, low secure settings, young offender institutions, and with individuals with IDD. At the present time this would limit its use across different settings and with different client groups.

Conclusions

This chapter has given an overview of the EssenCES, an examination of its psychometric properties and how it compares to other social climate measures. The EssenCES is reported to have adequate to excellent internal consistency and reliability, as well as its scores correlating substantially with other social climate measures such as the GMI (Friis, 1986); SEB (Sammet & Schauenberg, 1999); WES-10 (Røssberg & Friis, 2004); and CIES (Schalast & Groenewald, 2009) giving it good construct validity. Research has also shown that positive ratings of social climate on the EssenCES have been associated with higher levels of staff morale and lower levels of stress, as well as lower social climate ratings being associated with increased aggression. As such, Schalast and Tonkin (2016) explain that this research provides some evidence that the EssenCES is a valid social climate measure. Further, Howells et al.'s (2009) study confirmed the three-factor structure of the EssenCES as well as the internal consistency and construct validity; however, they also advise that larger studies are required in order that the assessment be administered with a broader range of client groups and service settings.

The ordinal scale could benefit from being more 'user friendly' due to the way in which the answers are worded. Furthermore, the scale only measures agreement in one direction meaning that respondents do not have the opportunity to disagree with any of the items. This could mean that ratings of social climate are deemed more positive than if the

respondents were able to disagree with some statements via the use of, for example, a Likert scale (Likert, 1932). There have been criticisms of ordinal scales in that there is there is no way of knowing how far apart the ratings are from one another (Kline, 2000) and the proposal that evidence-based research is difficult to conduct with such scales (Nunnally, 1978). However, Kline (2000) believes it reasonable to presume the intervals on such scales to be equal as this enables more complex forms of analysis to be conducted on the data which can potentially contribute further to the field of psychological theory and practice.

When compared to a more well-established social climate measure such as the WAS (Moos & Houts, 1968), the WAS covers a wider breadth of factors concerning social climate; however, the language is somewhat outdated and would benefit from being revised (Røssberg & Friis, 2003). The lower number of subscale items comprising the EssenCES may limit its ability to effectively assess the constructs it is attempting to measure. Conversely, it may be an easier assessment to administer to, for example, people with cognitive impairments given the lower number of items and the shorter administration time. Furthermore, research has confirmed that use of the EssenCES within different service settings and with different client groups is currently limited and that there is a requirement for validation of the instrument with groups that have been under-represented in the normative samples. Indeed, Quinn et al. (2012) highlight the need for further validation of the EssenCES with individuals with IDD and Tonkin (2016) confirms that it is yet to be validated in low secure settings, women's services, and young offender institutions.

CHAPTER 4: PATIENT PERCEPTIONS OF SOCIAL CLIMATE AND STAFF VIEWS OF WORKING WITH INTELLECTUALLY DEVELOPMENTALLY DISABLED (IDD) OFFENDERS: THE INFLUENCE ON AGGRESSION IN FORENSIC IDD SERVICES

Abstract

Research into the social climate of secure forensic settings has found that perceptions of social climate are linked to factors such as treatment outcomes and levels of aggression. There is a lack of social climate research in forensic Intellectual Developmental Disability (IDD) services and no social climate measures have been adapted for this population. This study aimed to assess the differences in patient perceptions of social climate and staff views of working with offenders with IDD across three forensic mental health settings. 13 patients completed an adapted version of the EssenCES (Schalast, Redies, Collins, Stacey, & Howells, 2008) and 49 staff completed an adapted version of the Attitudes to Offenders scale (Melvin, Gramling, & Gardner, 1985). Both questionnaires showed an increase in positive ratings as the security level of the settings decreased, but these results were not statistically significant. There were no significant relationships found between the questionnaire ratings and the frequency of incidents across the three settings. In addition to the questionnaires, eight staff participated in focus groups to explore their views of working with offenders with IDD. The focus group data elicited three overarching themes: 1) Working with offenders with IDD; 2) Systemic considerations; and 3) Factors affecting social climate. The results highlighted that robust staff training and support may help to reduce incidents of aggression and improve the social climate. Furthermore, improved adaptation of social climate measures for the IDD population is required in order that future research can assess the views of social climate of this underrepresented client group.

Introduction

Social climate, also known as 'social environment' and 'ward atmosphere', has been defined by Wright (1993) as the long-standing characteristics of a particular setting which impact upon the people residing/working within that setting. Research has found that certain aspects of the environment within secure services can influence individual perceptions of the quality of the environment. In turn, people's perceptions of the ward environment may impact upon their mental/emotional wellbeing. Studies have confirmed that the quality of staff-patient relationships contribute to the emotional stability of patients (e.g., Fish & Culshaw, 2005; Fluttert, 2010). Other factors found to form a positive social climate are patients' personality characteristics (e.g., Meehan et al., 2006) and how fit the environment is for its purpose (e.g., Long et al., 2011b). A 'poor' social climate has been found to be associated with acts of aggression (e.g., Meehan et al., 2006). This study aims to compare the perceptions of social climate of patients with Intellectual Developmental Disabilities (IDD), together with staff views of working with offenders with IDD, and investigate any differences across settings with different levels of security.

Measuring social climate

There are a number of assessments which aim to measure the social climate of a setting. A full exploration of social climate measures can be found in Chapter 3; therefore, only a summary is presented here. The Ward Atmosphere Scale (WAS; Moos & Houts, 1968) had previously been considered as the standard method of measuring social climate. It contains 100 items under 10 subscales of: *Involvement*, *Support*, *Spontaneity*, *Autonomy*, *Practical Orientation*, *Personal Problem Orientation*, *Anger/Aggression*, *Order/Organisation*, *Programme Clarity*, and *Staff Control*. Limitations of the instrument have been reported by Røssberg and Friis (2003). The Correctional Institutions Environment Scale (CIES; Moos & Schaefer, 1987) and Community-Oriented Programs Environment Scale (COPES; Moos, 1972) are both derived from the WAS. More recently, the Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008) was developed to measure the social climate of psychiatric wards. The scale contains 17 questions which measure: *Therapeutic Hold*, *Experienced Safety*, and *Patients' Cohesion and Mutual Support*. Higher scores indicate a more positive rating of social climate. Studies have found the EssenCES to have good internal consistency and convergent validity with other social climate measures (e.g., Howells, et al., 2009).

The factors which may influence perceptions of social climate

Bressington et al. (2011) found that patient ratings of social climate using the EssenCES within forensic settings were associated with their service satisfaction using the Forensic Satisfaction Scale (FSS; MacInnes et al., 2010). The strongest association with service satisfaction was patient perceptions of the therapeutic relationship with staff, indicating that staff-patient relationships play an important role within a well-perceived social climate. Other studies have found differences between staff and patient ratings of the same environment. Using the CIES, Morrison et al. (1997) examined staff and patient attitudes in a newly-built forensic facility. Their analysis revealed significant differences between staff and patient perceptions of the social climate on the subscales of Autonomy, and Practical Orientation where staff rated them more highly than patients. Apart from these differences there were correlations found between patient and staff ratings for the remaining subscales; however, caution should be taken when interpreting these results as the number of staff who completed the CIES was higher (n=40) than the patients who completed the measure (n=11). Brunt and Rask (2005) also found significant differences between patient and staff ratings of social climate using the WAS, with only the subscales of Personal Problem Orientation and Anger and Aggression being rated similarly. Such differences in staff and patient ratings of the same environment should perhaps be expected given that each party resides within the environment for different reasons (Røssberg & Friis, 2004). As such, the perspective from which social climate ratings are made is important to consider.

Other research has highlighted that the security level of a setting can influence social climate ratings. Langdon et al. (2006) found that both staff and patients on a low secure unit rated the environment more positively than the patients on a medium secure unit for the CIES subscales of Practical Orientation and Personal Problem Orientation. There were no significant differences between the units for the other subscales. Additionally, Long et al. (2011a) found significant differences between patient and staff EssenCES ratings for low and medium secure wards, where ratings were higher in the low secure settings. It is understandable that higher secure settings might receive lower social climate ratings from both patients and staff. Willets et al. (2014) explain that such units are designed for patients whose behaviours might be more challenging and who require closer monitoring than those on wards with lower restrictions. Increased monitoring might lead to higher levels of frustration and agitation for patients who may not understand why these measures are in

place. Furthermore, such environments may place more pressure on staff due to the level of vigilance required and the increased likelihood at having to respond to incidents.

The influence of social climate on patient progression

Middleboe et al. (2001) examined the relationship between patients' 'real' and 'ideal' perceptions of social climate. They found that patients rated their ideal environment significantly higher than their actual perceptions of the environment on the majority of subscales of the WAS. Perceptions of ward atmosphere were not found to be related to patient characteristics such as gender, age, or diagnosis which meant that the environment was highlighted as an 'independent treatment parameter' (p.217). As such, the authors state that social climate ratings form an important part of patients' treatment outcomes. Beazley and Gudjonsson (2010) found that depressed patients reported lower levels of motivation to engage in treatment and that they also rated the social climate less favourably. Using the Patient Motivation Inventory (PMI; Gudjonsson et al., 2007) they discovered that the subscales of *Internal Motivation* and *No Confidence* significantly correlated with social climate scores. Beazley and Gudjonsson (2010) therefore proposed that depression and perceptions of ward atmosphere are elements which should be addressed at the same time. Their results suggest that perceptions of social climate may have an impact upon patients' motivation to engage with treatment. It has already been mentioned that the staff-patient therapeutic alliance plays a role in positive perceptions of social climate. In addition, Marshall and Serran (2004) explained that the quality of these relationships can have an impact upon treatment outcomes. Therefore, if staff and patients have better quality relationships the patients may be more likely to engage in their treatment due to perceiving the support from their clinical team. Indeed, Long et al. (2011a) found that patients' total scores on the EssenCES significantly correlated both with their motivation to engage in treatment and the therapeutic relationship with staff.

Social climate and its associations with aggression

Meehan et al. (2006) conducted a qualitative study into patients' perceptions of the factors leading to aggressive behaviours as well as the ways in which the risks of such behaviours could be reduced. The themes that were elicited from their analysis revealed that the environment and a lack of personal space, together with boredom and negative staff

interactions, were triggers for aggression. As such, the design of the environment and the quality of staff-patient relationships could be contributing factors to patients' challenging behaviours. Other studies have found associations with social climate ratings and aggression. Middleboe et al. (2001) discovered that patients in locked units rated levels of anger and aggression on the WAS more highly than those in open units, suggesting that the security level of the unit may have an influence on aggressive behaviours. In addition, Ros et al. (2013) discovered that the number of aggressive incidents was lower in more open institutional climates, which is corroborated by Long et al. (2011a). Ros and colleagues also found that higher ratings of staff support and institutional environment were significantly associated with lower frequencies of aggression. They suggest that organisations examine the environment when attempting to explore the ways in which they might be able to reduce aggressive behaviours. In a study of prison populations, van der Helm, Stams, van Genabeek, and van der Laan (2012) examined how inmates' personality characteristics and group climate contributed towards aggression in delinquent boys. They found that an open group climate, which they defined as structured and safe with opportunities for growth, was positively associated with agreeableness and openness which mitigated against aggression. Interestingly however, a repressive group climate (e.g., distrust among inmates and mutual hostility) did not prove to be related to aggression. Nonetheless, van der Helm and colleagues discussed the importance of developing and maintaining a positive group climate in order that the treatment and rehabilitation of delinquent boys can be effective.

Social climate in Intellectual Developmental Disability (IDD) services

There is a lack of studies into the perceptions of the ward environment of individuals with IDD **(**APA, 2013), as well as the staff working within such settings. Langdon et al. (2006) measured social climate in forensic services for individuals with IDD and its relationship to treatment outcomes using the CIES. The results indicated that patients with IDD rated low secure wards more positively than medium secure settings. The study also discovered that staff and patients had different perceptions of the same social climate which has been found in other, non-IDD, studies (e.g., Brunt & Rask, 2005). As with many psychometric assessments, however, the CIES had not been adapted for use with the IDD population which raises questions as to its validity within this study. Bakken et al. (2012) also found that patients with IDD may have misinterpreted some of the questions of the WAS as the standard deviation in the subscale scores was found to be higher than that of the non-IDD

patients. This indicated that the patients with IDD may have disagreed more on their ratings than those in non-IDD services, and leaves questions relating to the validity and reliability of Bakken and colleagues' results together with the utility of the WAS with the IDD population.

Wood et al. (2008) conducted a qualitative study into IDD service users' satisfaction levels within a forensic service. Their analysis highlighted several themes including: patients feeling a lack of control relating to their care, patients wanting good relationships with staff, and improvements to the quality of the environment. The participants' comments suggested a preference for units with fewer locked doors, a more 'homely' environment, and greater involvement in decisions about their care. Whilst quantitative studies demonstrate potential associations between social climate ratings and such factors as challenging behaviours, qualitative analysis (e.g., Smith, Flowers, & Larkin, 2009) can provide richer information regarding the experiences of individuals residing within those environments and the factors which might be causing concerns.

As previously mentioned there are currently no social climate measures which have been adapted for use with the IDD population, which is disappointing given that the Royal College of Psychiatrists (2013) recommended that social climate be monitored in forensic IDD settings. The fact that no measures have been adapted is not necessarily due to a lack of interest in this area. Indeed, Bell, Tonkin, Chester, and Craig (2017) argued that adapting such measures would enable individuals to have their views and opinions heard more clearly. Instead, the hesitation may come from the considerations that need to be borne in mind when adapting assessments for patients with IDD, whilst retaining the integrity of the original assessment. Such considerations include questions that use simplified language and avoid negative phrases (e.g., Finlay & Lyons, 2001); questions which remain in the first person (e.g., Mencap, 2002); shortened questionnaires and question lengths (e.g., Prosser & Bromley, 2012); three-point scales rather than four or five point scales (e.g., Sentell & Ratcliff-Baird, 2003); and inclusion of scripts of alternative words/phrases to clarify meanings for respondents (e.g., Finlay & Lyons, 2001). Clearly, adapting assessments for use for individuals with IDD is a complex task which involves balancing the needs of the respondents whilst ensuring that the assessment retains its reliability and validity.

Thompson (2010) investigated the level of 'staff burnout' within this client group. Burnout has been defined as a psychological state which includes depersonalisation, emotional exhaustion, and a reduction in the person's sense of personal accomplishment

(Maslach & Jackson, 1986). Thompson found that exposure to high levels of challenging behaviour along with increased fear of assault contributed to staff burnout. As such, experiencing burnout may impact upon the quality of care and therapeutic rapport that staff are able to provide to patients. In addition, other research has examined staff attitudes to offenders via the use of the Attitudes To Prisoners scale (ATP; Melvin, Gramling, & Gardner, 1985). Positive staff attitudes towards offenders have been shown to increase the number of positive treatment outcomes. Whilst there is research which examines the views and experiences of staff working with individuals with IDD (e.g., Hatton et al., 1999; Jenkins, Rose, & Lovell, 1997; Lyall, Holland, & Collins, 1995) there is a lack of research examining how these views may influence staff interactions with patients, the social climate and the frequency of patient aggression.

Aims of the current study

The current study focuses on perceptions of social climate in secure forensic settings for individuals with IDD, as well as staff views of working with individuals with IDD. Both of these are examined in terms of the impact on the frequency of patients' aggressive behaviours. For the purposes of this study, 'aggressive behaviour' is defined as violence towards staff and/or peers, threats to harm staff and/or peers, and aggression to the environment. Patient self-harm is not included within the definition of aggressive behaviour within this study. Research has found that outwardly-directed aggression tends to be related to interactions with staff, for example, when patients perceive that their needs are not being met (e.g., Tenneij & Koot, 2008). It could therefore be argued that it is easier to attribute outwardly-directed aggressive behaviour to elements within the social climate. In terms of self-harm in individuals with IDD, Brown and Beail (2009) found a number of factors which could trigger such behaviours. These included: past experiences of loss, past physical and/or sexual abuse, and interactions with people in the present. Indeed, Dawson, Matson, and Cherry (1998) found it difficult to ascertain the function of individuals' self-harm in their study. Therefore, whilst the environment does have the potential to contribute to self-injurious behaviours this may not always be the case, and therefore the motivation behind the behaviour is equivocal. As such, there were concerns that including self-harm within the definition of aggression in the current study may contribute to an inaccurate account of the frequency of aggressive behaviours and therefore their relationship to the social climate.

This study aims to:

- Adapt the EssenCES for use with the patient participants in the current study. A preliminary focus group will be conducted with clinical staff from different disciplines to ascertain their views of how the standard EssenCES assessment could be adapted so that patient participants' views of the social climate are reliably measured in the present study. The ideas from this focus group would inform the adaptation of the EssenCES measure, which would be conducted by the researcher and a registered Speech and Language Therapist (SALT). The adapted measure will then be tested in a pilot study;

- Examine patient perceptions of their ward environment, using the adapted version of the EssenCES, and any significant differences in scores between low secure, locked rehabilitation, and step-down[2] settings;

- Explore staff attitudes towards offenders with IDD, using an adapted version of the ATP, and any significant differences in scores between the low secure, locked rehabilitation, and step-down settings;

- Because the adapted ATP would only give an overall 'positive' or 'negative' rating of staff views of working with offenders with IDD, their views of working with this client group would also be explored in separate focus groups. The aim of these discussions would be to gather more in-depth information from staff from different disciplines regarding their views and experiences of working with offenders with IDD, as well as their perceptions as to the factors which influence the social climate within the research setting;

- Investigate any relationships between the EssenCES and adapted ATP scores and the frequency of aggressive incidents in the low secure, locked rehabilitation, and step-down settings.

[2]In this particular study, the 'step-down' settings are environments which aim to closely reflect that of community placements (e.g., flats/houses). The aim of such settings is for individuals to develop greater independent living skills before they are 'stepped down' into a community placement.

Hypotheses

The following hypotheses are to be tested as part of the current study:

1. Patient perceptions of the ward environment and staff views of working with offenders with IDD would differ significantly between the low secure, locked rehabilitation, and step-down settings;
2. There would be a significant relationship between patient perceptions of ward environment using the EssenCES and the frequency of aggressive incidents in the low secure, locked rehabilitation, and step-down settings;
3. There would be a significant relationship between staff views of working with offenders with IDD using the adapted ATP and the frequency of aggressive incidents in the low secure, locked rehabilitation, and step-down settings;
4. There would be a significant difference in the frequency of incidents across the low secure, locked rehabilitation, and step-down settings;
5. The focus groups exploring staff experiences of working with offenders with IDD would highlight their experiences of working with this client group and contribute more in-depth information to accompany the adapted ATP scores. They would also highlight the factors which contribute to the social climate in the research setting.

Method: Quantitative study

Participants

Patient participants. The criteria for patient inclusion into the study were that: 1) patients should be diagnosed with an IDD (APA, 2013); 2) have a forensic history; and 3) have the capacity to consent to participate. In terms of forensic history, patients did not necessarily need to have a conviction, but have a history of offence-type behaviours, for example, violence towards others and/or sexually inappropriate behaviours. Based on the first two criteria, 36 patients were identified as potential participants in the study. For the third criteria, discussions were held with the patients' Responsible Clinicians (RCs) and Clinical

Lead regarding the information and consent forms that would need to be completed with the patients, as well as the EssenCES assessment. In order for capacity to be deemed present, an individual is required to understand and retain information, weigh up the information as part of the decision-making process, and communicate their decision (Mental Capacity Act, 2005). As such, patients would be required to understand and retain the information relating to the study contained within these forms in order to inform their decision of whether or not they wished to participate. They would also need to understand the EssenCES items and answer them using the assessment scale, although assistance would be provided via a glossary (these forms are discussed in more detail in due course). Further to these discussions with the RCs and Clinical Lead, a further 22 patients were deemed unsuitable to take part in the study. This was due to the severity of the patients' IDD and, in some cases, their cognitive ability being further impaired by chronic mental illness. Of the remaining 14 patients, one patient was discharged to another placement prior to the information regarding the study being presented to them.

This resulted in a convenience sample of 13 patients who participated in the study, all of whom were males aged between 20-67 years (M = 46.23, SD = 17.88). Twelve patients (92%) were White British in ethnicity, with one patient (8%) coming from a White and Black Carribean ethnic background. The Full Scale IQ (FSIQ) range for the 13 patients, who had each been assessed using the Wechsler Adult Intelligence Scale (WAIS-IV^{UK}; Wechsler, 2008), was 46-76 (M = 60.77, SD = 8.10). Assessment of the patients' adaptive functioning which had been completed using the ABAS-II (Harrison & Oakland, 2003) indicated that all patients had deficits in the majority of the skills domains. These difficulties could be traced back through the developmental period based on reports from family members and/or clinical reports detailing patients' contact with IDD services during childhood and adolescence. Most patients had co-morbid diagnoses, with over half having a personality disorder diagnosis (n=7), three with traits of Autistic Spectrum Disorder (ASD), two with Attention-Deficit-Hyperactivity-Disorder (ADHD), one with Language Disorder, and one patient had a diagnosis of Schizophrenia. As such, when considering the DSM-V's adaptive functioning domains of social, conceptual, and practical skills, the majority (n=12) of patients were deemed to have a diagnosis of mild IDD, and one a moderate IDD. Of the sample, 24% (n=3) of patients were in low secure settings, 38% (n=5) were in locked rehabilitation settings, and 38% (n=5) were in step-down settings. In terms of their forensic histories, 31% (n=4) patients had a history of violent offences, 23% (n=3) had perpetrated sexual offences, and 46% (n=6)

had committed both types of offences. Sixty-two per cent (n=8) of participants had a conviction. 54% (n=7) were detained under Section 3 of the Mental Health Act (2007) and 46% (n=6) were under Section 37/41.

Staff participants. The criteria for staff inclusion in the study was that they had worked within the setting for a minimum of three months (i.e., successfully completed their probation period), that they were regular staff not agency workers, and that they worked in either the low secure, locked rehabilitation, or step-down settings. A total of 15 staff were excluded due to being agency workers, three staff declined to take part, and one was on long-term sickness due to work-related injury. This meant that a convenience sample of 49 staff completed the adapted ATP. Seven of these staff also participated in the focus groups to discuss working with offenders with IDD (see the qualitative study). Of the total sample who completed the questionnaire, 18 staff (37%) were male and 31 (63%) were female, with the age range being 18-62 years (M = 38.57, SD = 11.25). The majority of staff participants (96%) were White British, with one staff member (2%) being from a Black African ethnic background and one (2%) from a Greek ethnic background. Staff participants came from a range of disciplines: 26 healthcare support workers (53%), 13 nurses (27%), two operational leads with nursing as their professional qualification (4%), two occupational therapy assistants (4%), two assistant psychologists (4%), one clinical lead with nursing as their professional qualification (2%), one trainee psychologist (2%), one occupational therapist (2%), and one speech and language therapist (2%). Staff members were often required to work across different settings; however, for the purposes of the questionnaire ratings staff were assigned to the units on which they predominantly worked. As such, 15 staff members worked in the locked rehabilitation settings, 17 were assigned to the low secure settings, and 17 worked in the step-down settings.

Design

The study used a cross-sectional mixed methods design whereby both qualitative and quantitative data were gathered and analysed.

Materials and measures

The following measures were used in the current study:

Essen Climate Evaluation Schema (EssenCES). The EssenCES (Schalast et al., 2008) is a social climate measure which aims to measure an individual's perception of the social environment in which they reside/work. As such, both patients and staff can complete the form. The scale comprises 17 items (two of which are filler items) which are answered on a five-point ordinal scale with the answers of *I agree: Not at all, Little, Somewhat, Quite a lot, and Very much*. The EssenCES comprises three subscales. The first is *Therapeutic Hold*, which attempts to measure how supportive the environment is perceived to be. The second subscale is *Patients' Cohesion and Mutual Support*, which explores whether individuals feel that they are supported by their fellow patients/colleagues. The third subscale is *Experienced Safety*, which examines the level of tension that individuals perceive and how safe they feel within their environment. Individuals are required to read each item and tick the appropriate response on the scale depending on their level of agreement. Each item on the scale is given a score between 0-4, with the subscale scores being calculated by adding the scores together for the items assigned to that subscale. The minimum score is 0 and the highest is 20 for each subscale, with high scores indicating a positive perception of social climate and low scores suggesting a negative perception of social climate (Schalast & Tonkin, 2016). Howells et al. (2009) confirmed the construct validity and three-factor structure of the EssenCES. Further, the Cronbach's (1951) alpha (α) values fell between 0.72 to 0.82 thereby confirming the measure's internal consistency. Howells and colleagues advised, however, that larger studies are required so that the EssenCES can be validated with a wider range of client groups and service settings.

Indeed, the EssenCES has yet to be validated with the IDD population. Therefore, prior to gathering the data for the present study the researcher organised a preliminary focus group and approached staff members who had a working knowledge of the standard EssenCES. The aim of the focus group was to discuss staff members' ideas of how the standard EssenCES measure could be adapted to assist the patients to complete it in a way which accurately reflected their perceptions of the social climate. These discussions would then inform the adaptation of the EssenCES for use in the present study. Staff members' consent to participate in the preliminary focus group was obtained verbally. A total of seven staff were identified as having a working knowledge of the assessment and were approached about participating in the focus group. Four staff consented to take part.

The focus group lasted for approximately 45 minutes and was comprised of two nurses, one registered SALT, and one trainee psychologist. All participants were White British in ethnicity and female, with the age range being 35-54 years (M = 45, SD = 8.98). There were no set questions developed for the focus group; instead, the clinicians were asked to give their initial impressions of the standard EssenCES in relation to its utility with individuals with IDD. The discussions subsequently focused on what adaptations they believed needed be made to assist the patients to complete the EssenCES in a way which accurately reflected their views of the social climate. The researcher took handwritten notes of the points raised which were referred to during the adaptation process.

The focus group members felt that the font size used for the adapted measure should be of at least size 16 to aid patients' reading of the items which corroborates the guidelines from Mencap (undated). Also, they felt that each statement should be accompanied by pictures and/or symbols in order to facilitate patients' understanding. Although it has been highlighted that pictorial aids may inadvertently change the meaning of the questions on a measure (Bell et al., 2017), the focus group members felt that the majority of patients would require pictorial aids to assist in their comprehension of the items. Guidance from Mencap (2002) also promotes the use of images to help communicate information more effectively. For the scale, the focus group members considered it important that each option was accompanied by a visual aid to assist the patients to answer each statement; indeed, research has found that such aids improve the response rate in people with IDD (e.g., Hartley & MacLean, 2006). Because changing the wording of the EssenCES items may have affected the standardisation of the measure, the focus group members suggested that a glossary of alternative words be produced. Indeed, Finlay and Lyons (2001) state that such 'scripts' can help the meaning of the questions to be clarified for participants. The glossary would be used in the event that patients found it difficult to understand any words within the original items, thereby providing standardised responses to any difficult words or phrases.

Subsequent to the focus group the researcher worked in collaboration with the SALT to implement the suggestions of the focus group members. A symbol-supported word processor (Widgit, 2010) was used to help identify appropriate images to use with each EssenCES item. As suggested by the focus group members, images were also used with the ordinal scale. When discussing potential images to represent increased agreement on the scale, the researcher and SALT felt it important to choose an image that patients would be

able to recognise and relate to. In terms of the glossary, guidelines from Mencap (2002) indicated that it would be important to use words which were clear and simple, whilst avoiding jargon. As such, the researcher and SALT read through each item of the EssenCES and identified the words in each item which they felt might not be clear to the patient participants. Each identified word was entered into a well-known online thesaurus to identify alternative words which may be suitable for the glossary. The online thesaurus generated multiple alternative words for each word entered; however, a large proportion of these alternative words were not deemed suitable replacements as it was felt that the patients may have difficulties in understanding their meaning. Therefore, the researcher and SALT identified what they believed to be the most straight-forward words from the options generated by the thesaurus. The challenges of adapting the EssenCES and developing the glossary are explored further in the 'Discussion' section. Appendix 10 shows the adapted version of the EssenCES together with the accompanying glossary.

Attitudes to Prisoners scale (ATP). Previous research by Glaser (1969) explored how people working within correctional settings interacted with inmates. It was found that positive interactions played an important part in the successful release of prisoners. As such, Melvin et al. (1985) developed the ATP in order to measure staff attitudes to prisoners in correctional facilities. The scale consists of 36 items which are answered using a five-point Likert scale comprising answers of: *Disagree Strongly = 1, Disagree = 2, Undecided = 3, Agree = 4, and Agree Strongly = 5*. Of the items, 17 are positive and 19 are negative. Once the scores of the negative items have been reversed, the scores for all items are added together. As Melvin and colleagues explain, 'a constant of 36 is subtracted from the total score giving a potential range of scores from 0 to 144' (p.243). Higher scores indicate that individuals feel positive towards prisoners, with lower scores suggesting negative attitudes towards inmates, although no cut-off is given. In terms of test-retest reliability, Melvin et al. (1985) administered the ATP to 40 men and women who were enrolled on an introductory psychology course and then re-administered the test to the same group of people two weeks' later. The correlation coefficient between the two tests, which was measured using a Pearson product moment, was .82 ($p<.01$) indicating good stability across the two time points. The authors also measured the internal consistency of the scale using the Spearman-Brown formula. For the psychology students this was measured as $r=.90$ ($p<.01$). There was high split-half reliability for the scale ranging between $r=.84$ and $r=.92$ ($p<.01$) for five different

samples and there was no evidence of response distortion. In order to administer the ATP with staff in the current study, the items were re-worded so that 'Prisoner' was replaced with 'Intellectually Disabled Offender' whenever this occurred. Furthermore, the phrase 'Parole' was replaced with 'Community Treatment Order (CTO)' in question 36 to take the different legal framework of the hospital setting into account. The assessment was renamed the 'Attitudes to Intellectually Disabled Offenders' scale (AIDO) for the purposes of the study. This methodology of changing the name of the study group has previously been used by Hogue (1993), who developed an alternative version of the ATP called the Attitudes Toward Sexual Offenders scale (ATS) where the term 'Prisoner' was replaced with 'Sexual Offender' for all items on the assessment. Both the ATP and ATS were administered to a total of 164 participants including prison and probation officers, psychologists, and sexual offenders. Similarly to the findings from the ATP study by Melvin et al. (1985), where police officers had the most negative attitudes towards prisoners, the ATS found that police officers showed the most negative attitudes towards sexual offenders, Furthermore, there were found to be significantly more positive attitudes towards sexual offenders by prison officers who had taken part in sexual offender treatment programmes when compared to prison officers who had not taken part in such programmes. Hogue proposed that these findings contributed towards the validity of the ATS.

In terms of the current study it should be noted that, due to the way in which some of the original ATP items are phrased, not all of them read appropriately when the term 'Prisoner' was replaced with 'Intellectually Disabled Offender'. For example, item 10 on the original ATP is 'Most prisoners are stupid'. When rephrased for the purposes of the AIDO this item read as 'Most Intellectually Disabled offenders are stupid', which may be interpreted as a prejudiced statement towards this client group. However, during the current study it was deemed important to retain as much of the original wording of the ATP as possible, as had Hogue (1993), in order to maintain the validity of the assessment. Nevertheless, such difficulties with the revised wording of the AIDO are explored in the 'Discussion' section. The ATP and the AIDO can be found in Appendix 11.

Aggressive incidents. Incident data were obtained from the independent provider's electronic incident database. The database consisted of information taken from individual incident reports that staff submitted subsequent to the occurrence of each incident. The database included such details as date/time of the incident, the patient(s) involved, staff

responses (e.g., verbal de-escalation, as required 'PRN' medication, and/or recognised behaviour-management techniques), and the unit on which the incident occurred. The database categorised incidents into verbal aggression, physical aggression (i.e., aggression to others and/or the environment), and medication errors. Details of how the data were used for the purposes of the current study are discussed below.

Procedure

The questionnaire data were gathered from patients and staff from an independent healthcare provider, specialising in working with individuals with IDD and forensic histories. The hospital comprised 48 beds divided across a number of units including low secure, locked rehabilitation, step-down, and units for individuals with diagnoses of severe and profound IDD. The majority of the units were not purpose-built and had been converted some years' previously in order to expand the services offered by the provider. The facilities of the hospital included a therapeutic room where psychological treatments were delivered, together with an occupational therapy suite which included a working kitchen and laundry where patients could practice their daily living skills. In addition, there was access to a large outdoor area where patients were able to engage in recreational activities. Shopping facilities were available in the local town centre; however, if patients were not able to access the town centre then an onsite shop was available for the purchase of small food items and personal care products. The staff team included the hospital manager, two responsible clinicians, two operational leads overseeing the operation of the service, and two clinical leads who supported the clinical teams on the units. Each unit was assigned at least one nurse during any one shift and a team of healthcare support workers. The number of healthcare support workers varied depending on the staffing levels of the individual patients, but there were usually up to eight healthcare support workers on any one unit. A therapeutic team comprising an occupational therapist, occupational therapy assistants, a speech and language therapist, a consultant forensic psychologist, two assistant psychologists, and two trainee psychologists (one of whom was the researcher) provided interventions to patients across the hospital. The questionnaire data were gathered between March 2017 and June 2017.

The frequency of aggressive incidents for March to June 2017 in the low secure, locked rehabilitation, and step-down settings was collated into an electronic spreadsheet from the independent provider's electronic incident database. Prior to checking through the data,

the researcher anonymised the information by removing the patients' names, but retaining the incident numbers in case further checks were required. The database categorised incidents into verbal aggression, physical aggression, or medication errors. As such, verbally and physically aggressive incidents were counted as aggressive behaviours as per the definition used within the current study, with the researcher omitting incident reports relating to medication errors. Where the same incident number had been assigned to multiple patients this indicated that more than one patient had been involved in the same incident. In such instances, the researcher only counted this incident once to ensure an accurate account of the frequency of incidents.

Patient participants. All appropriate patients were approached separately to take part in the research. Because the researcher worked within the organisation the patient's named nurse went through the information form (see Appendix 12) with the patients so that they did not feel implicitly coerced into taking part in the study. The information form was explained in order to support the patient to make an informed choice as to whether or not they wanted to participate. For the patients who initially agreed to take part a further discussion was held with them in their multi-disciplinary meeting (MDT) in the presence of their RC. This discussion aimed to affirm their understanding, capacity to consent, and agreement to participate. If these conditions were satisfied then the researcher met with the patient to complete the adapted consent form (see Appendix 13) and adapted EssenCES questionnaire.

The items were read out to the patients and, if necessary, the glossary was used in order to explain any words that the patients did not understand. The non-adapted EssenCES form can be completed in approximately 15 minutes; however, one hour was allocated for the adapted EssenCES to be completed to ensure that patients had sufficient time to complete the assessment. Breaks were offered to the patient throughout the assessment. Because the EssenCES statements focus on an individual's views/feelings regarding their ward environment, their peers, and the staff within that environment, there was the potential that completing the form may have elicited some difficult emotions. Debriefing was provided using an easy-read form (see Appendix 14). Staff were asked to monitor each patient's presentation for any signs of deterioration and to contact the researcher if concerns were raised. None of the patients reported feeling distressed during or after the assessment.

Pilot study. Prior to the EssenCES being administered with all 13 consenting patients, a pilot study was conducted with the first three patients who were available to meet with the researcher to complete the assessment. The aim of the pilot study was to assess any flaws in the above research procedures and amend these procedures with the remaining ten patients. All three patients who participated in the pilot study had a diagnosis of mild IDD and were White British in ethnicity. They were aged between 58 to 67 years ($M = 63$, $SD = 4.58$) and all resided in the step-down settings. Despite the information being presented to the patients by the nurse and discussions held in MDT, all three patients had difficulty in remembering some details of the study. As such, the researcher went through the information sheet again just prior to administering the EssenCES to ensure that the patients were reminded of all aspects of the study prior to participating. The procedure of going through the information sheet just prior to administering the EssenCES was then adopted with the remaining ten participants.

It was necessary to use the glossary to aid the patients' understanding for most of the items, which was expected. However, two of the EssenCES items proved more difficult for some of the patients to understand. The first was item 13: *Often, staff seem not to care if patients succeed or fail in treatment*. The other items of the EssenCES are worded positively; however, this item is negatively worded which Finlay and Lyons (2001) recommend be avoided in assessments for the IDD population. Furthermore, the patients had to decide the extent to which they agreed with the item, which proved difficult if they wanted to choose the *Not at all* option to an already negative statement. Indeed, guidance from The Inns of Court College of Advocacy (ICCA; 2015) advises against using negative statements with individuals with IDD to aid clearer communication. It appeared to help the three patients' understanding when the researcher read item 13 and then asked "Do you agree with that statement?" as yes/no answers are concrete and easier for individuals with IDD to understand (Gloucester Probation Trust, undated). If the patient said "no" then the *Not at all* option was ticked. If they said "yes" they were then asked to indicate how much they agreed by choosing from one of the options on the scale. The second item which caused difficulties for the patients was item 15: *Some patients are so excitable that one deals very cautiously with them*, particularly due to the word 'one'. There was no clarification in the manual as to what 'one' referred to so the researcher made the decision to change the word 'one' to 'patients and staff' so the statement read: *Some patients are so excitable that patients and staff deal very*

cautiously with them. This appeared to clarify item 15, so it was also re-worded for the remaining ten patient participants.

Staff participants. Staff recruitment posters (Appendix 15) were placed on the relevant units in the nurse's office to make staff aware of the study. The poster asked staff to contact the researcher if they wished to participate; however, the researcher also spoke directly to staff to assess whether or not they wished to take part. Discussions with staff were held in rooms away from the units to ensure their privacy. For staff agreeing to participate the information form (see Appendix 16) was read through with them and they were informed that they could participate in a focus group, complete the AIDO questionnaire, or participate in both. After deciding on the aspect of the study in which they wished to participate, the consent form was then provided (see Appendix 17) for staff to read and sign. For staff wishing to complete the AIDO questionnaire, the researcher sat with them during its completion in order to address any queries. It was possible that the questionnaire may have elicited strong emotions relating to how staff felt about working with offenders with IDD. These emotions may have inadvertently impacted on the staff team or patients in the vicinity of the staff participants. As such, debriefing was provided (see Appendix 19) to participants after completing the questionnaire, and they were asked to contact the researcher if they had any concerns. No staff contacted the researcher with any concerns.

Data analysis

A-priori analyses using G*Power 3.1.9.2 (Faul, Erdfelder, Lang, & Buchner, 2007) for a one-way ANOVA for three groups indicated that a minimum sample size of approximately 159 participants across the three groups would allow for the detection of a medium effect size of $f = 0.25$ using Cohen's criteria (Cohen, 1988). This assumed alpha (α) = 0.05 and power $1-\beta = 0.8$. The analysis of the data was conducted using the Statistical Package for the Social Sciences (SPSS Version 24; IBM, 2016).

Test of hypothesis 1. Hypothesis 1 stated that patient perceptions of the ward environment and staff views of working with offenders with IDD would differ significantly between the low secure, locked rehabilitation, and step-down settings. In terms of the patient data, tests of normality indicated that the data was not normally distributed. As such, the difference in patients' social climate ratings using the EssenCES across the different settings

was examined using a Kruskal-Wallis test. For the staff questionnaire data, a frequency histogram indicated the data to be normally distributed and the Levene's test was non-significant, $F(2,46) = 1.09$, $p = 0.34$. As such the difference in staff questionnaire data using the AIDO across the three settings was analysed using a one-way ANOVA.

Test of hypothesis 2. Hypothesis 2 stated that there would be a significant relationship between patient perceptions of ward environment using the EssenCES and the frequency of aggressive incidents in the low secure, locked rehabilitation, and step-down settings. Due to the non-parametric nature of the data, the relationship between patients' EssenCES ratings and the frequency of aggressive incidents was examined using a Spearman's Rho correlation.

Test of hypothesis 3. Hypothesis 3 stated that there would be a significant relationship between staff views of working with offenders with IDD using the AIDO and the frequency of aggressive incidents in the low secure, locked rehabilitation, and step-down settings. As such, a Spearman's Rho correlation was conducted to examine the relationship between staff AIDO ratings and the frequency of aggressive incidents.

Test of hypothesis 4. Hypothesis 4 stated that there would be a significant difference in the frequency of incidents across the low secure, locked rehabilitation, and step-down settings. A Levene's test was found to be significant, $F(2, 23) = 4.91$, $p = 0.02$, indicating that the data violated the assumption of homogeneity of variance. As such, the difference in the frequency of aggressive incidents across the three settings was examined using a Kruskal-Wallis test.

Method: Qualitative study

Participants

The criteria for staff inclusion into the focus groups to explore their experiences of working with individuals with IDD was the same as that for completion of the questionnaires (i.e., staff had worked within the setting for a minimum of three months, were regular staff, and they worked in either the low secure, locked rehabilitation, or step-down settings). A total of eight staff consented to participate and were divided across two focus groups to aid with the transcription process. Seven of these staff also completed the AIDO and one staff

member chose to participate only in the focus groups. Seven staff (87.5%) were female, one (12.5%) was male, and all were White British in ethnicity. Participants' ages ranged from 27-52 years (M = 41.5, SD = 8.16). Staff were from a range of disciplines: two healthcare support workers, one nurse, one occupational therapist, one SALT, one assistant psychologist, one trainee psychologist, and one occupational therapy assistant. As with the questionnaires, staff members were assigned to the units on which they predominantly worked. As such, four staff worked on the step-down settings, three were from the locked rehabilitation settings, and one staff member worked in the low secure setting.

Materials and measures

A semi-structured interview schedule was developed to guide the discussions of the focus groups (see Appendix 18). The questions were not grounded in a particular theory or the social climate literature as it was felt this would potentially make the interview too narrow in its focus. Instead, a 'funnel' approach was employed whereby the interview started with a broad exploration of staff experiences of working with offenders with IDD and gradually focused onto the factors which staff believed impacted upon the social climate. The 'broader' interview questions aimed to elicit information relating to the wider context in which the staff worked, in order to give context to the more focused questions relating to social climate. Indeed, as Morgan (1997) explains, the funnel approach enables participants to express their own perspectives during the earlier part of the discussions, as well as examining their views relating to the researcher's specific questions regarding the main subject area.

Procedure

As with the questionnaire data, the focus groups were conducted with staff working for the same independent provider who specialised in working with individuals with IDD and forensic histories. The focus groups were advertised using recruitment posters which were placed on the relevant units in the nurse's office (Appendix 15), and discussions with staff were held in rooms away from the units to ensure their privacy. Staff were provided with an information sheet (Appendix 16) which gave them the option of participating in the focus groups, completing the AIDO questionnaire, or both. After deciding on the aspect of the study in which they wished to participate the consent form was then provided for staff to read and sign (Appendix 17). To ensure that the staff who wanted to participate in the focus

groups could attend, the researcher liaised with the service's clinical lead who was in charge of staff allocations to ensure that staff could attend the focus group during their shift.

Both focus groups were conducted in April 2017 in a meeting room which was separate from the main hospital units. This was to ensure that confidentiality was maintained and that the participants felt comfortable to openly talk about their experiences. Even though all participants had already read the information and consent form, the researcher reminded the participants at the start of the focus groups about their aim and purpose. The focus groups were audio-recorded with a dictaphone. Once completed, the researcher went through the debrief sheet (Appendix 19) with the participants and informed them that they could contact the researcher if they had any concerns. No participants contacted the researcher with any concerns.

Analysis

Test of hypothesis 5. Hypothesis 5 stated that the focus groups exploring staff experiences of working with offenders with IDD would highlight their experiences of working with this client group, as well as the factors which contributed to the social climate in the research setting. The data from the transcriptions were analysed using the qualitative research method of Thematic Analysis (Braun & Clarke, 2006) in order to elicit salient themes. Thematic Analysis was chosen due to it not being tied to a particular theoretical position like other qualitative methods such as Interpretative Phenomenological Analysis (IPA; e.g., Smith & Osborn, 2003) and Grounded Theory (e.g., Strauss & Corbin, 1998). In this regard, Thematic Analysis was deemed to be a more flexible research tool than other qualitative methods as it potentially provides rich and complex accounts of the data under scrutiny (Braun & Clarke, 2006).

The audio files of the recorded focus groups were downloaded onto the researcher's password-protected computer and transcribed verbatim into word processing documents. Only the participants' dialogue was transcribed, as opposed to including such elements as sighs, pauses, or expressions of emotion, as the focus of the analysis was the content of the discussions and themes arising from the dialogue. The process of the analysis followed the guidelines set out by Braun and Clarke (2006). A general list of codes was generated from the data. During this phase the researcher identified 18 initial codes which highlighted interesting features of the data including 'team working', 'impact of patient restrictions' and 'separating

the offender from the individual'. The codes and related data extracts were sent to the researcher's supervisor to check for the reliability of the coding process. The researcher subsequently allocated the codes into three over-arching themes, which were named 'working with offenders with IDD', 'systemic considerations' and 'factors affecting the social climate'. Some of the codes were included under more than one over-arching theme as there was felt to be an overlap across the themes. Subsequently, the codes were reviewed and a number were amalgamated due to their similarities in terms of the data they comprised. This reduced the total number of codes to seven, most of which were assigned to more than one of the three over-arching themes. The researcher then renamed the seven codes to more concisely encompass the information included within them. For example, an amalgamated code titled 'impact of patient restrictions and institutionalisation/peer dynamics and influences on the environment' was renamed to 'The costs and benefits of restrictions and freedoms'. A report of the analysis was then produced which included a 'thematic map' of the data. This map provided a diagrammatical representation of the codes and how they fell under multiple over-arching themes. Also included in the analytical report were extracts from the transcriptions to serve as examples of the data.

Ethical considerations

Prior to conducting the research, ethical approval was gained from the University of Birmingham's Science, Technology, Engineering, and Mathematics Ethical Review Committee; reference: ERN_15-1245 (Appendix 21). Approval was also gained from the independent provider from whom the data was gathered (Appendix 22). Due to the study involving the collection of data from vulnerable adults, further approval was gained from the West Midlands Edgbaston Research Ethics Committee; reference 16/WM/0460 (Appendix 23). Once completed, the final research report would be made available to members of the organisation's management team. Easy-read summaries of the research were developed in consultation with the SALT and the results fed back to the patients.

Personal safety. The researcher complied with the hospital's policies and procedures relating to security when interviewing patients and staff. She had access to a personal alarm when meeting with patients, and staff were informed of when and where the patient

interviews were taking place. In addition, all patients and staff were interviewed in a secure environment.

Data protection. Each participant was given a code which was entered onto their assessment form to protect their anonymity. These assessment forms were kept in a locked cabinet separate from the information and consent forms so that participant information could not be identified. The coding details and the patient/staff member to whom they referred were kept on a spreadsheet which was password protected. The content of the focus groups was transcribed and participant codes were used to protect the participants' identities. The recordings were stored electronically on a password protected computer. Patients and staff were entitled to withdraw from the study, without reason, up to one month from the date of completing the assessment forms/focus groups. If a patient or staff member decided to withdraw from the study, all of their data would be securely destroyed (i.e., shredded) and be omitted from the final analysis. In this instance, no staff or patients withdrew from the study. Any data stored electronically was saved in password-protected documents whereby the password was only known to the researcher. Only the researcher and supervisor had access to the data produced as part of the study. Should the study be published, participants were informed that confidentially and anonymity would be upheld in accordance with data protection. The data would be preserved at the University of Birmingham and be accessible for ten years.

Results: Quantitative study

Treatment of the data

Post-hoc power analyses were conducted for one-way ANOVA for three groups (Faul et al., 2007). In the current study there were a total of 13 patient participants and 49 staff participants who completed the questionnaires. Based on these participant numbers, and with a medium effect size $f = 0.25$, the post-hoc analyses indicated insufficient power for the patient group ($\alpha = 0.05$, power $1-\beta = 0.1$) and the staff group ($\alpha = 0.05$, power $1-\beta = 0.3$).

Descriptive statistics

Table 4.1 below outlines the mean scores for the EssenCES total for each setting together with the mean scores for each of the three subscales.

Table 4.1
Mean EssenCES scores and standard deviations across the three settings

EssenCES Scale	Setting					
	Low secure		Locked rehabilitation		Step-down	
	M	*SD*	*M*	*SD*	*M*	*SD*
Patient Cohesion	7.67	2.08	8.60	8.76	10.00	5.96
Experienced Safety	9.00	3.60	10.60	5.08	12.60	5.73
Therapeutic Hold	9.67	7.50	14.60	4.98	16.00	3.08
EssenCES Total	26.34	8.62	33.80	10.85	38.60	5.03

The mean scores indicate that the EssenCES scores increased (i.e., patient perceptions of social climate were more positive) as the security level of the setting decreased.

Table 4.2 outlines the mean scores for the AIDO questionnaires across the three settings.

Table 4.2
Mean AIDO scores and standard deviations across the three setting types

AIDO questionnaire	Setting					
	Low secure		Locked rehabilitation		Step-down	
	M	*SD*	*M*	*SD*	*M*	*SD*
Total score	87.35	15.54	92.27	17.69	95.94	11.32

The mean scores indicate that the AIDO scores increased (i.e., staff views of working with offenders with IDD were more positive) as the security level of the setting decreased.

The total frequency of incidents across the low secure, locked rehabilitation, and step-down settings for the period of March to June 2017 is shown in Table 4.3 below, together with the mean total across the four-month period.

Table 4.3
Total incidents for March to June 2017 and mean monthly incidents for the low secure, locked rehabilitation, and step-down settings

Incidents by month	Setting		
	Low secure	Locked rehabilitation	Step-down
March	41	55	0
April	49	58	0
May	56	74	0
June	39	64	0
Total incidents	185	248	0
Mean monthly incidents	46.25 (*SD* = 7.80)	62 (*SD* = 7.07)	0

The mean number of incidents for the low secure settings over the four-month period was 46.25 (*SD* = 7.80) and for the locked rehabilitation settings it was 62 (*SD* = 7.07). There were no incidents in the step-down settings.

Relationship between EssenCES and setting type

A Kruskal-Wallis test showed that there was no significant difference in the total EssenCES scores across the three settings $\chi^2(2, n = 13) = 3.687$, $p = 0.16$. Statistical tests also examined the differences in scores for the EssenCES subscales. The Kruskal-Wallis test showed that there was no significant difference in the scores for the Patient Cohesion subscale across the three settings $\chi^2(2, n = 13) = 0.14$, $p = 0.94$, nor the Therapeutic Hold scores, $\chi^2(2, n = 13) = 2.53$, $p = 0.28$, or the scores for the Experienced Safety subscale, $\chi^2(2, n = 13) = 1.27$, $p = 0.53$.

Relationship between AIDO and setting type

A one-way ANOVA indicated that there was no significant difference in the AIDO scores between the three settings, $F(2,46) = 1.41$, $p = 0.25$.

Relationship between aggressive incidents and setting type

A Kruskal-Wallis test showed a significant difference in total incidents across the three settings during the four-month period, $\chi^2(2, n = 26) = 13.55$, $p = 0.00$. Pairwise comparisons indicated significant differences in the frequency of incidents between the low secure and step-down settings ($p = 0.00$) and the locked rehabilitation and step-down settings ($p = 0.00$). However, there was no significant difference found in the number of incidents between the low secure and locked rehabilitation settings ($p = 1.00$).

Relationship between aggressive incidents and questionnaire ratings

Table 4.4 summarises the mean number of incidents for the four-month period together with the mean patient and staff questionnaire scores. The questionnaire scores increased as the security level of the setting decreased, although the locked rehabilitation settings had a higher average number of incidents than the low secure settings which will be explored in the 'Discussion' section.

Table 4.4
Mean number of incidents and the corresponding mean scores for the AIDO and EssenCES

	Setting		
	Low secure	Locked rehabilitation	Step-down
Mean total incidents	46.25	62	0
Mean AIDO total	87.35	92.27	95.94
Mean Patient Cohesion	7.67	8.60	10.00
Mean Therapeutic Hold	9.67	14.60	16.00
Mean Experienced Safety	9.00	10.60	12.60
Mean EssenCES total	26.34	33.80	38.60

A Spearman's Rho test was conducted to examine the relationship between the patient EssenCES ratings, staff AIDO ratings, and the frequency of incidents. The results are displayed in Table 4.5 below.

Table 4.5
Spearman's Rho correlations between patients' EssenCES ratings, staff AIDO scores, and the frequency of incidents

	Total Incidents	Total AIDO	Total EssenCES	PC Score	TH Score	ES Score
Total incidents	-	-0.74	-0.32	0.14	-0.50	-0.13
Total AIDO	-0.74	-	-	-	-	-
Total EssenCES	-0.32	-	-	-	-	-
PC Score	0.14	-	-	-	-	-
TH Score	-0.50	-	-	-	-	-
ES Score	-0.13	-	-	-	-	-

PC = Patient Cohesion, TH = Therapeutic Hold, ES = Experienced Safety

Using Cohen's (1988) criteria, there was a medium negative correlation between the Total EssenCES score and Total Incidents, as well as a large negative correlation between the Therapeutic Hold subscale and Total Incidents. In addition, there was a large negative correlation between the AIDO scores and number of incidents. However, none of these results were statistically significant.

Results: Qualitative study

The first focus group lasted 50 minutes in duration and the second group lasted for 40 minutes (M = 45 minutes). In terms of the reliability of the data analysis, the researcher's supervisor was in agreement with 15 out of the 18 initially generated codes. It was felt that three of the codes required altering in order to more accurately represent the related data extracts. Using the formula described by Miles and Huberman (1994) (i.e., the number of

agreements divided by the sum of the agreements and disagreements), this gave an agreement rating of 83%. The results of the Thematic Analysis are presented below, together with direct quotes from the participants to illustrate the issues raised. Figure 2 shows a Thematic Map which visually represents the interplay between the different codes and over-arching themes.

Overarching theme 1: Working with offenders with IDD. This overarching theme includes different aspects of working with offenders with IDD that staff discussed.

Rewards of working with offenders with IDD. Staff explained that observing and measuring change in the patients gave them satisfaction, for example, seeing patients being able to manage their behaviours in adaptive ways rather than resorting to challenging behaviours. Staff also reported satisfaction from seeing an increase in the confidence of patients when they were able to complete tasks that had previously been too difficult for them.

"…the thing that I enjoy is when I see somebody's self-esteem increasing…instead of saying 'I need a lot of support'…his instant automatic thought is…'I can do this myself'…"

Staff explained that they enjoyed working with individuals with IDD who also had offending histories, as it added another layer of complexity to their work.

"I like the risk management, risk assessment side of the job…you always sort of need to be on your toes…"

"…it's not just about assessments, it's looking at pro-social values and social norms..."

Interestingly, this same reason was sometimes seen as a reason why staff found the work challenging.

Challenges of working with offenders with IDD. Staff reported that their primary way of working with the patients was to address their needs as individuals with IDD, rather than viewing them as offenders.

"…the fact that they are offenders doesn't really come into it, it's only about the fact that they have learning disabilities and how we enable them".

"…predominantly we look at the learning disability. I don't think necessarily we refer to patients as offenders…it's more about…the person first".

Staff also talked about the challenges when working with individuals with communication difficulties.

"[The] biggest hurdle for me is being able to pitch information at the right level so that you know that [the patients] understand it…"

"…one of our clients who isn't verbal, trying to work out if he's in pain coz he can't even indicate he's in pain…"

Patients' communication deficits made it difficult to ascertain the function of challenging behaviours. As such, it was often a case of 'trial and error' in terms of staff testing new strategies to better understand what the patients were trying to tell them.

"…a lot of it…is about working together…to try and…decipher…what is going on for this patient because…they're not able to verbalise that for themselves".

Besides offence-related treatment, it was identified that addressing adaptive living skills was just as important because they could be risk factors to future offending.

"…when you look at risk assessments and risk of offending…building on [the patients']…adaptive living skills…all feeds into…reducing their risk…".

"… you're balancing constantly the potential of their risk and the potential of how independent they could be…so you're always looking at both ends of the scale".

Staff members explained the difficulties in progressing patients and how it could lead to them doubting their own abilities as practitioners.

"…it can be hard when change seems…very minimal…you think 'Oh god, am I not doing my job well?'…you have to be more reflective on the very small…changes…rather than…expecting a huge change".

"…it's so important why we use…really sensitive assessments and outcome measures to show that even if it's the tiniest change, it's significant in that person's life for where they're at…"

As well as the expectations that staff had of themselves, they also felt that expectations from external agencies about patients' progress were often unrealistic.

"…it's also making other people aware that [a particular change] is significant, especially external people like funders…sometimes they want to see a really big change and it's like, well…he can put his shoes on now…"

"[Commissioners] have this drive to get everybody from hospital to the community…there's certain patients who should remain in hospital…how we manage their risk is better done in a hospital environment".

As well as the expectations from external agencies, staff commented that it was important to balance their own expectations of patients, especially in terms of them integrating into their environment.

"…the patients would never choose to live with who they live with here…they're…expected to get to know a full staff team, full range of patients…"

"And you expect them to get on…you expect them to sit down and have a meal together…"

"They actually do incredibly well in the whole grand scheme of things…"

As well as professional challenges, a personal challenge which was raised was the issue of working with offenders when staff themselves had been (directly or indirectly) victims of an offence. This generated discussions about how staff might manage their feelings when working with issues which might be 'close to home'.

During the analysis, it seemed that these professional and personal challenges could be linked to the training and support that staff received. These are explored in 'Systemic considerations'.

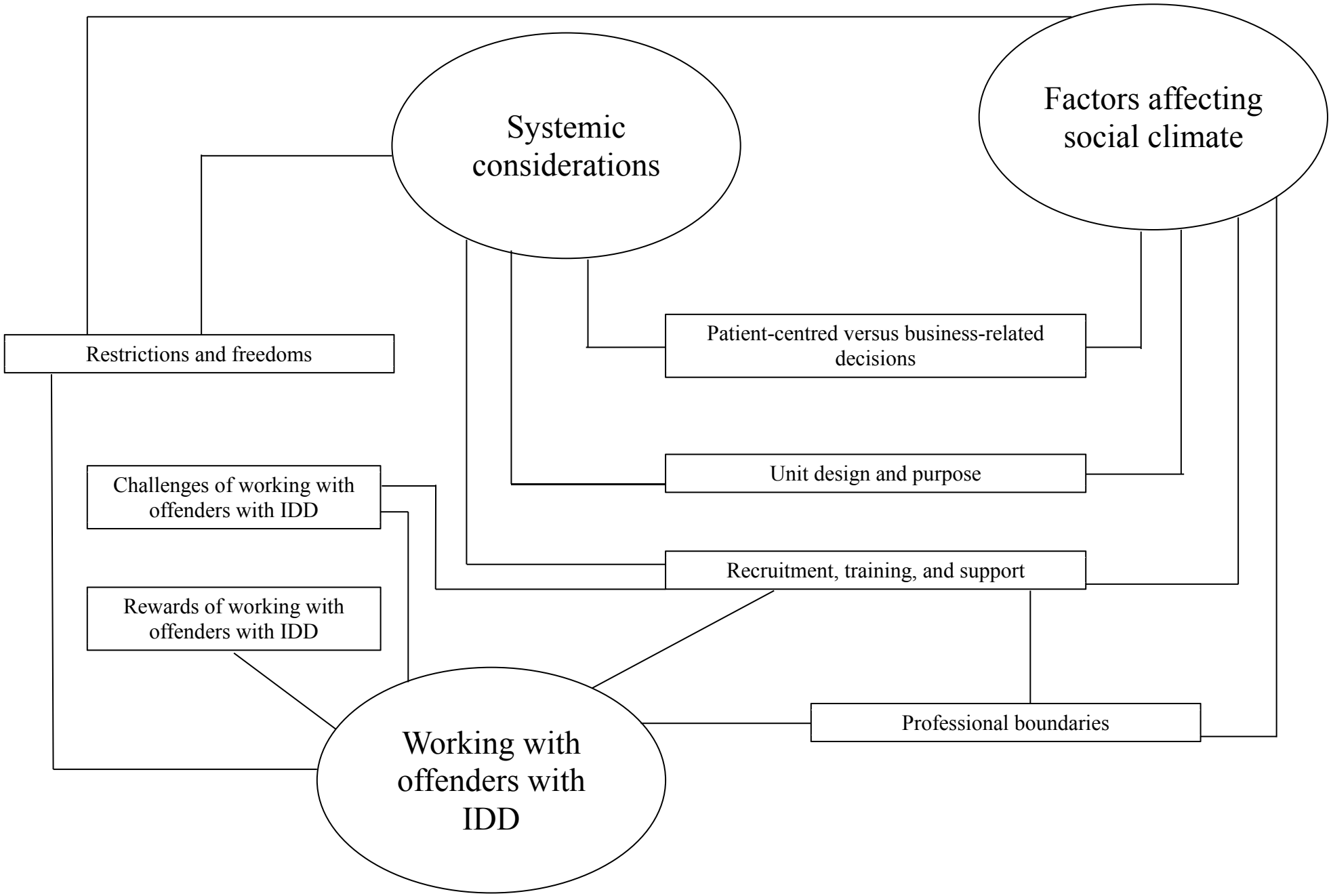

Figure 2. Thematic map of the qualitative data analysis

Restrictions and freedoms. In the current setting, each patient has their own individualised care and risk management plans. The discussions highlighted that this sometimes meant that patients perceived their peers to be under fewer restrictions than they were.

"…[the patients] get jealous coz that other client's doing [an activity] and they're doing nothing".

"...some patients may need the kitchen door locked and they can't access the kettle, whereas other patients can do everything completely independently".

This could cause resentment amongst patients as they were unable to understand why peers had different levels of restrictions placed on them. It could also lead to a drop in their motivation to engage with their treatment.

"…if I…had to wait…for staff to…make my breakfast for me, you think 'Well, tomorrow I won't have breakfast because I can't be bothered to ask. It's too much effort'. So, I think you'd see a complete downward slope in motivation".

It might be assumed that more freedom would benefit patients. Indeed, this was the case for some.

"…one of the clients who's lived behind locked doors for five years, we've removed that restriction…he's able to manage himself better now he's got freedom…."

"…he has changed a lot…[because of] the freedom he's got here…"

However, additional freedoms might sometimes cause difficulties due to patients expecting staff to do things for them.

"…[freedom] can also be detrimental to people if they're quite institutionalised…"

"…'Why not go into the kitchen and cook your own meal?' or… 'Let's go over to the OT suite and do your own laundry'…[the patients] are so used to people doing it all for them…so it's really difficult to enforce and engender that change".

This could therefore limit the progress made with patients who prefer to follow set routines rather than taking more responsibility for their rehabilitation.

Professional boundaries. Setting boundaries was felt to be important for staff. It was discussed that staff were sometimes inconsistent in reinforcing boundaries, with the risk of them becoming complacent if a patient was settled and seemed to be progressing well.

"…sometimes people forget the history don't they? Complacency…can sometimes increase risk…"

Part of the problem of staff maintaining boundaries may also be due to them being unaware of how to balance their working relationship with the patients.

"…some staff need to have their guard up a little bit more…you don't want to be completely guarded…but…you're not their friend, you're employed to do a job with them".

"…that's the difference isn't it? It's between friends and friendly; having a friendly professional relationship with distinct boundaries…"

Patients were believed to be good at identifying which staff might be less strict with their boundaries than others, meaning that being vigilant to potential boundary violations was even more important.

"[The patients]…know what nurse is on, what they can get away with. They know what healthcare support worker where they're gonna push the boundaries…sometimes the staff don't understand that…".

The impact of inconsistent boundaries is discussed further under the overarching theme of 'Factors affecting social climate'.

Overarching theme 2: Systemic considerations.

Patient-centred versus business-related decisions. Staff felt that decisions about where new admissions were placed were sometimes driven by the needs of the business as opposed to the patients' needs.

"…we don't, as a company, look at our client group… let's move [these patients] into one environment which is bigger and then use the smaller environments for people who are going to move on…into the community and we can test positively that they can manage themselves".

Furthermore, the impact of sudden changes on staff and patients, which may be driven by management decisions, was not always considered. One staff member described how a change of staff can destabilise a unit.

"…we've just gone through …a process of using 80% agency [staff] …Now, [management] have taken 80% agency away and given me regular staff…the patients…suffer because…yesterday everyone knew what they were doing; today they don't…we seem to move forward then we slip back…and I think the managers miss that…"

Staff understood that, although there was a need for additional resources, decisions made by members of the management team were directed by people higher up in the organisation.

"…they've got budgets above them…the directors say you need to cut costs…so they're doing what they're told to do…we're underneath going…'This is the resources we need'…but unfortunately…the budgets are there".

Recruitment, training, and support. This code came primarily from discussions relating to the need for improved staff training and support. The implications surrounding training and support were also felt to impact upon staff working with the patients, adherence to professional boundaries, and the influence upon the social climate. This code was therefore linked to all three overarching themes.

Given that the needs of the patients differed across settings, group members felt that staff should be recruited to work in specific settings. They explained that there was a lot of information to remember about the patients in *one* setting, without taking into account if they were required to work across different settings.

"…you've got to remember all the care plans…and [the patients in the setting] are all totally different…and you go to work with somebody else [in a different setting] who's [got] total freedom…"

"We should be advertising for locked rehab…or autism support workers, whereas we recruit staff and…wherever there's a gap we place them…they may have experience of autism but…end up getting placed on a low secure unit so we're not utilising the staff skills".

"…we need to be employing people for specific roles in specific areas and then when it comes to your induction you go onto those units…this is your unit, this is where you learn".

Staff felt that the induction training needed to focus more on how staff interact and work with individuals with IDD.

"…we're very good in the induction in doing things like…first aid, food hygiene, but we don't equip the staff about how to engage…and how to communicate with patients".

"…I just think that staff…aren't sufficiently trained…there's no…[training on] communication, understanding of risk, boundaries…"

There were discussions about staff members' anxieties regarding the team with whom they were working on a day-to-day basis.

" 'Is it a weak team or is it a strong team? Oh, I've got a strong team tomorrow we're alright. Oh, we've got a weak team I might call in sick'…"

Due to a lack of regular staff there was often a need to use agency workers, which could unsettle patients and create additional responsibilities for regular staff.

"…[the patients] don't like changes…when you've got a nurse on that doesn't know what they're doing… you can't spend that time with them clients coz you're the one doing them main jobs…"

Any new staff were usually included within the numbers soon after their training, meaning that they had little time to shadow experienced staff. This created more work for experienced staff who needed to provide guidance and support in addition to performing their own daily tasks.

"…I do feel that we don't train as well as we should…because we don't have time to spend with the new members of staff…"

"…when you've got a new starter they include it in your numbers…within…two weeks…so…they could do with a bit more support…"

Furthermore, staff felt that they were missing information which was important to their role and that of new starters.

"…a lot of [new starters]…don't know the clients…because [the information's] not in the files anymore …I've always been told…get to know these guys…be aware of the risks…"

Ongoing support and collaboration with colleagues, for example, reflective practice sessions were said to be important.

"we…should be looking at doing…reflective practice…those…sessions…could really support the treatment and progress of the patients…but…I'm not sure [management] understand the benefit of that just yet".

"having…people that you can get supervision from and get…discussions going about problems that you might have…that's really important in terms of reflection and…being able to move forward…"

Unit design and purpose. Staff commented that the layout of some units was not necessarily conducive to effective working practices.

"…[the patients] can't get away from each other…if you've got a situation…where are the other clients supposed to go?".

"…the worst place…is the…main corridor…because it gets so busy…and that's usually where issues happen".

Staff also had concerns that the purpose of the units was not always clear.

"…we don't know the purpose for some of the units…if we don't know the purpose we can't identify the right patients…and the staff don't really know what type of a unit, 'Is it locked rehab, or are we a bit acute or what are we?'…"

Overarching theme 3: Factors affecting the social climate. Staff were asked about their understanding of the term 'social climate'. Whilst they were unfamiliar with the term and its meaning, they *were* able to identify how different aspects of the environment could have a detrimental impact upon the patients and in some cases their levels of aggression. The previously discussed codes of: *restrictions and freedoms*; *unit design and purpose*; *recruitment, training, and support*; *professional boundaries*; and *patient-centred versus*

business-related decisions, contain references to the impact on social climate. This overarching theme was therefore created to incorporate these codes and highlight the issues affecting social climate in the current setting.

In order to ensure that staff had a strong foundation from which to work with the patients, staff explained that the induction training should include information about how to engage and communicate with individuals with IDD. Indeed, communication difficulties were identified as one of the challenges of working with individuals with IDD.

"…train the staff, get them competent and confident in working with learning disability…and…that will…reduce potential aggression and challenging behaviour".

Furthermore, staff said that professional boundaries should form part of the induction training to reinforce the importance of consistent working practices. They were aware of the importance of boundaries when working with vulnerable individuals, especially those who may lack understanding of appropriate relationships.

"Some [patients] have never had father figures, never had mother figures…never had boundaries set before…"

The discussions highlighted that inconsistent working practices could cause confusion and fear for patients and possibly put staff at risk. The staff who regularly reinforce appropriate boundaries may bear the brunt of patient frustration and/or aggression if patients have been given more freedom by other staff members.

"I think the aggression's more…coz [the patients] don't feel safe or their needs [are] not being met".

As already discussed, the use of unfamiliar agency staff was reported to cause anxieties for some patients.

"…when you've got an agency nurse on…sometimes you're the one that's left to run that team and…that shift…it affects the clients…they don't like changes…"

The clinical team within the current setting aimed to work within a person-centred approach. The level of patients' restrictions and freedoms was determined on an individual basis within their multi-disciplinary team meetings. Due to settings being comprised of patients who had individual needs and risks, their level of restrictions and freedoms often

differed. When patients perceived that peers received preferential treatment (e.g., had fewer restrictions) this could cause resentment towards their peers and/or the staff, which could result in incidents of aggression. Despite staff attempting to explain the reasons for these differences, patients did not appear to understand and incidents would often continue.

"[There] may be an upturn in aggression as well because 'Why can't I do what everybody else is?' "

"The mood swings…the language goes up terrible on one person…he calls them all the names under the sun".

One staff member described a patient who had more freedom in the current setting than in his previous placement, where he was under eyesight observations. The patient had a high level of incidents at this previous placement; however, upon moving to the current setting he was no longer under constant observation and a reduction in his incidents was observed.

"…I thought 'We'll never cope with this guy' because he…had an incident…twice a day…since he's come here there has been a big difference because we don't follow him [around the unit]…because where he was before, if he moved the member of staff moved…"

Conversely, freedoms could sometimes have a detrimental impact upon patients. For example, one patient's care plan was altered so that, instead of having one cigarette per hour he could smoke however many cigarettes he wanted throughout the day. Unfortunately, the patient then spent the majority of his money on cigarettes which led to incidents of aggression when he was unable to afford other items.

"…one of our clients…likes to have his smoking on the hour. The CQC…said…we…had to prove that he couldn't manage having an unstructured care-plan…he couldn't manage it…ended up in violence…then we went back to what we…knew would work which was on the hour and then all the…behaviours stopped".

The staff stated that the physical layout of the settings meant that patients were in close proximity, which indicated that the risk of incidents occurring could be higher. Furthermore, if an incident did occur there were not many places where other patients could be moved in order to manage their safety.

"…the corridors are quite narrow so you can't really…have two clients in the corridor that aren't happy. They haven't got many areas to go…"

Staff felt that the need to make business-related decisions, which might not always dovetail with person-centred care, sometimes meant that patients were placed within settings in which they were not entirely suited.

"…I don't think we think about the dynamics…when we have referrals…or we're looking at moving patients round…[management say]… 'Well there's a space, let's move them there'…I don't think it's helpful at all".

Consequently, this could have an impact on the dynamics of the setting in terms of the quality of peer relationships and the ability of staff to support and manage the patients, as well as the clinical team's ability to progress patients through their treatment pathway.

Discussion

This study had four main aims. The first was to adapt the EssenCES measure for use with the patient participants with IDD. A number of staff with a working knowledge of the assessment participated in a preliminary focus group to discuss ways in which the measure could be adapted. Staff with a working knowledge of the assessment were identified as it was felt they would have a good understanding of the measure and therefore be able to contribute ideas as to how it could best be altered. However, the researcher acknowledges that involving staff *without* knowledge of the measure could also have helped to generate additional ideas about its adaptation. Furthermore, no patients were approached to gain their views of the standard EssenCES or suggestions about how it could be adapted to facilitate ease of use. Indeed, Mencap (2002) recommend involving individuals with IDD in developing communication materials. As such, gathering the views of the audience who would ultimately be using the assessment may have increased the utility of the assessment during the present study.

During the adaptation process, despite using the symbol-assisted word processor it was sometimes difficult to identify images which most accurately represented the EssenCES item to which they were being assigned. Indeed, as highlighted by Bell et al. (2017) such visual aids may be interpreted differently by each individual who completes the measure and

could also change the meaning of the items, thereby impacting upon the reliability and validity of the assessment. Nonetheless, Kabzems (1985) highlighted that presenting questionnaire items verbally to individuals with IDD puts pressure on their short-term memory, meaning that visual aids can help to relieve some of this pressure. To further assist in the completion of the measure the scale may benefit from being reduced to a three-point scale rather than its current five-point form. It was not felt appropriate to alter this for the purposes of the current study, and Bell et al. (2017) confirmed that changing the scale would affect the ability to compare the scoring with the original version of the EssenCES. However, studies have found that individuals with IDD respond more effectively to three-point scales (e.g., Fang et al., 2011; Sentell & Ratcliff-Baird, 2003) so this is worthy of future consideration. There were also difficulties in developing the accompanying glossary. The guidance from Mencap (2002) states that when developing materials for individuals with IDD, simple words and phrases which are also free from jargon should be used. However, the researcher and SALT felt that the alternative words which were generated by the thesaurus were often as complex as the original EssenCES words. As such, it is acknowledged that some of the words used in the glossary may not necessarily be the most appropriate replacements for the words used in the EssenCES. For example, the alternative word generated for 'excitable' (in item 15) was the word 'moody'. This word was chosen in an attempt to reflect changes in an individual's emotional presentation; however, the researcher accepts that moody may conjure different impressions of an individual's mood as compared with 'excitable'. As such, rather than replacing single words, which may not necessarily fit into the context of the overall item, it might be beneficial to re-word each item in its entirety. This would risk changing the meaning of the EssenCES items, but should be considered for future adaptations.

The second aim of the study was to assess patient perceptions of the ward environment using the adapted version of the EssenCES and examine any significant difference in scores across the low secure, locked rehabilitation, and step-down settings. The average EssenCES scores increased (i.e., ratings became more positive) as the security level of the setting decreased, which corroborates the findings from previous studies (e.g., Langdon et al., 2006). In terms of comparisons to the normative data used by Schalast and Tonkin (2016), the low secure patients' ratings for each of the subscales were deemed to be 'Somewhat below average'. For the locked rehabilitation settings the average scores for Patient Cohesion and Experienced Safety were deemed to be 'Somewhat below average',

whilst the mean score for the Therapeutic Hold subscale was measured as 'Somewhat above average'. In terms of the step-down settings, the average scores for Patient Cohesion and Experienced Safety were deemed to be 'Average' and the Therapeutic Hold subscale score was found to be 'Clearly above average'. However, the normative data on which these categories are based was not gathered from secure IDD services. As such, further data from the IDD population is required in order to generate normative data with which to compare the results with other IDD settings.

Statistical tests examining the differences in the total and subscale scores for the EssenCES between the three settings were found to be non-significant. A number of factors may have affected these results. Unfortunately, the number of patients who participated in the study was lower than the number deemed required to detect a medium effect size in the data. Indeed, the post-hoc statistical tests indicated the power to be insufficient (Faul, et al., 2007). The majority of eligible patients were assessed as not meeting the criteria of having capacity to consent to participate, and the small sample size may therefore affect the generalisability of the results to the IDD population. There were difficulties in recruiting additional patient participants. The service did receive two new admissions after the data for all consenting participants had been collected; however, similar to the majority of the other potential patient participants, the severity of their IDD meant that they were deemed unsuitable to take part in the study.

Regarding the actual assessment, patients' difficulties in understanding the wording of the EssenCES items may also have affected the results. As explained earlier, the wording of the adapted assessment remained the same as the original EssenCES in order to maintain the validity of the measure as much as possible. As a consequence, the glossary was needed to help patients understand some words within the items. Bell et al. (2017) explained that individuals with IDD have difficulties in holding and manipulating information in mind. As such, the need for individuals in the current study to process the meaning of the items, together with selecting an answer from the scale, may have been too cognitively taxing. The researcher acknowledges that amending the way in which item 13 was presented (i.e., asking participants whether or not they agreed with the statement before asking them to choose an option on the scale) may have had an influence on their responses. However, the need to alter the presentation of the item highlighted the issues with its original phrasing and it was felt appropriate to assist participants' understanding of the item as much as possible rather than omitting it. As discussed above, the items of the EssenCES may need to be revised in their

entirety so that the wording is simpler, shorter sentences are used and negative phrases avoided, as highlighted previously (e.g., ICCA, 2015; Prosser & Bromley, 2012).

Another potential reason for the lack of significant differences in EssenCES scores could be linked to a factor highlighted within the thematic analysis, where staff were sometimes uncertain about the purpose of the units due to the diverse range of clients residing in the setting. One quote from the discussions was:

"…we don't know the purpose for some of the units…'Is it locked rehab, or are we a bit acute or what are we?'…"

Indeed, some of the locked rehabilitation patients were not necessarily able to engage in rehabilitative activities. As such, the average EssenCES ratings given for the locked rehabilitation settings may not be indicative of what would usually be expected from such settings. These ratings may also be related to the frequency of incidents reported, which is discussed in due course.

The third aim of this study was to use the AIDO, an adapted version of the ATP (Melvin et al., 1985), to gather ratings of staff attitudes towards offenders with IDD and investigate any significant differences in scores between the low secure, locked rehabilitation, and step-down settings. The scores increased (i.e., staff views became more positive) as the security level of the setting decreased; indeed, one would expect the environment and patients' presentations to be less challenging as the level of restrictions were lower. However, a number of factors may have influenced the non-significant test result. Firstly, the total staff sample was lower than the number required to detect a medium effect size in the data, and the calculation of post-hoc statistical power was estimated to be insufficient (Faul, et al., 2007). In addition, many staff were required to work across the different settings due to staff shortage, sickness and/or annual leave. This may have influenced the ratings that staff gave and would not necessarily give a true indication of the views of working within each specific setting and the associated client group. Another factor to consider is that some staff may have been concerned about presenting negative attitudes towards individuals with IDD. Paulhus (1984) described two major factors to social desirability: *self-deception*, when someone unconsciously portrays themselves more favourably; and *impression management*, when respondents give overly-positive descriptions of themselves to their audience. Paulhus reported that these levels increased if respondents expected their results to be made public; indeed, as part of the consent process staff were informed that the results may be published,

albeit anonymously. Given that the questionnaire asked about staff views of working with offenders with IDD, and that some staff found some items particularly sensitive, they may have felt more able to answer the items openly if they had completed the questionnaire alone and returned it to the researcher anonymously (e.g., in a sealed envelope). Furthermore, during completion of the questionnaire many of the staff commented that they felt uncomfortable with a number of the items, for example, item 6: *'It is not wise to trust an intellectually disabled offender too far'* and item 20: *'There are some intellectually disabled offenders I would trust with my life'*. Staff stated that their ratings were not because individuals had an IDD, but because of their offender status. Further concerns were voiced by some staff regarding the appropriateness of the wording of item 10: *'Most intellectually disabled offenders are stupid'*. This reflects the concerns highlighted earlier where it was noted that replacing 'Prisoner' with 'Intellectually Disabled Offender' may have made some questions sound prejudiced towards individuals with IDD. As such, the wording may have affected staff responses to some items. The questionnaire may therefore need to be revised in order for it to be deemed a fair and accurate indicator of staff views of working with offenders with IDD.

In addition to the AIDO questionnaire, two focus groups were conducted to explore staff views and experiences of working with offenders with IDD. The thematic analysis of the data elicited three overarching themes. The first was *Working with offenders with IDD*, where staff discussed the challenges and rewards of working with this client group. The challenges of working with offenders with IDD included balancing the management of the patients' risks with enabling them to lead fulfilling lives. There were also difficulties of staff managing their expectations of how much progress was possible with patients as well as the expectations from external agencies. Interestingly, some of these challenges were also seen as the reasons that staff enjoyed working with the patients as they added another layer of complexity to working with the client group. The restrictions and freedoms of the patients could affect peer dynamics where some patients observed that their peers were under fewer restrictions. This could cause resentment towards their peers and the staff, which sometimes resulted in aggressive incidents (this is discussed in more detail under the third theme of 'Factors affecting social climate'). As well as professional challenges, a personal challenge which was raised was the issue of working with offenders when staff themselves had been (either directly or indirectly) victims of an offence. With over one million violent crimes and in excess of 100,000 sexual crimes being committed between January and December 2016 in

England and Wales (Office for National Statistics, 2017), it is highly likely that a number of individuals working within forensic settings will have been affected by such crimes in some way. This serves to highlight the importance of support for staff teams as emphasised in organisational frameworks such as TIC (SAMHSA, 2014). Additionally, professional boundaries which were also deemed to form an important part of working with offenders with IDD. Consistent working practices were believed to help the patients feel safe, and a lack of consistency could result in patients becoming confused and frustrated which sometimes led to aggression towards the staff.

The second overarching theme was *Systemic considerations*. Staff were aware of the difficulties that the organisation faced in terms of needing to make decisions which ensured the longevity of the business versus those which would impact upon the patients. Some changes were made without thorough consideration of the impact that these might have upon the patients and staff. For example, a gradual change of staff, rather than a large proportion of staff being changed at once, may take more time but would potentially cause less disruption. It would mean that patients could get to know, and feel comfortable with, new staff members and that the new staff could be inducted into the procedures and routines of the setting. The unit design was also of concern, where the layout (e.g., narrow corridors, lack of free space) could impact upon effective working practices. Narrow corridors meant that patients would often come into close proximity with one another, which could lead to confrontation if those patients were already in conflict. Further, the lack of free space sometimes meant that staff found it difficult to direct patients to other areas of the unit when an incident was taking place. Unfortunately, wards may not always be 'bespoke' to the particular client group and may have had other uses prior to being converted to hospital wards. As such, there are often limitations regarding how much the environment can be adapted to better suit its purpose. One suggestion may be to reduce the number of beds on units, thereby providing additional space for patients. Indeed, Olver, Love, Daniel, Norman, and Nicholls (2009) proposed that this might help to reduce incidents of aggression; however, this would inevitably have cost implications in terms of adapting the space and the organisation's future income. The purpose of the units was not always clear to staff in the current study and they believed that patients were sometimes placed inappropriately. As a consequence, they were unsure as to the level of care that they were expected to provide to patients, for example, whether they should be making certain patients' meals, or whether those patients should be supported to make meals themselves. Discussions were also had about the recruitment, training, and support of staff. It

was felt that the benefits of reflective practice sessions were not fully recognised by the organisation, so these sessions were not actively encouraged. Reflective practice sessions would help bring staff teams together to work towards a unified approach in terms of the patients' care and treatment. Furthermore, induction training should include more information about working within a secure forensic setting with offenders with IDD. Some of the existing training programme (e.g., food hygiene) could be completed through e-learning to allow more time to focus on information relating specifically to working with the patients. Staff felt there to be a general lack of confidence in team members supporting each other on shift due to an insufficient level of skills to work with the client group. These comments highlighted the need for a more robust training programme which would better equip the staff to work within a forensic setting with individuals with IDD.

The third and final overarching theme was *Factors affecting the social climate* which was borne from some of the previously discussed codes, namely: restrictions and freedoms; unit design and purpose; recruitment, training, and support; professional boundaries; and patient-centred versus business-related decisions. The level of restrictions placed on patients was reported to affect their presentation. Whilst strategies such as Valuing People (2009) and the Transforming Care agenda (2015) promote the importance of patient-centred care, when patients observed some peers to have fewer restrictions this could cause frustration and result in aggressive behaviours targeted at peers and/or staff. Staff described how they would try to explain to patients why the restrictions and freedoms were different for each individual, but that it was hard for patients to understand why they were treated differently. Whilst person-centred care may be effective for individuals living in separate accommodation with their own support team, it can cause conflict within ward environments and requires careful management. The impact of higher levels of restrictions on ratings of social climate has been highlighted in other studies (e.g., Langdon et al., 2006; Willets et al., 2014). As already discussed, there was uncertainty for staff regarding the purpose of some of the settings, particularly locked rehabilitation. Patients were sometimes admitted whom staff believed were not necessarily appropriate for certain settings. This was sometimes the result of business-focused decisions needing to take precedence over those that were more patient-centred. This could sometimes mean that a new patient's required levels of support and supervision were not in line with the overall focus of the unit. For example, a patient admitted to a rehabilitation setting might not be able to engage in rehabilitative activities and their current presentation may mean they are more suited to an acute setting. As a consequence,

staff may not be adequately equipped to manage such a patient and the extent of support required could mean that staff resources are diverted away from other patients, causing frustration and an increased likelihood of aggressive incidents. Furthermore, the design of the units was highlighted as a factor which could potentially exacerbate the conflict between patients due to a lack of space. Although Eggert et al. (2014) found a limited effect on ratings of social climate regarding the design of the ward environment, Olver et al. (2009) found there to be a reduction in the number of seclusion episodes after patients had been moved to a large, purpose-built facility. They propose that reductions in patient numbers together with an increase in space might help to reduce aggressive incidents by creating more personal space for the patients and less likelihood of patient conflicts in confined spaces. However, as already discussed, fewer patient beds may affect the ability of the organisation to continue offering its services due to the impact on their income.

Staff believed that a training programme which focused on working with offenders with IDD would help to better equip the teams to work with this client group. For example, research has highlighted that challenging behaviours are often a way of patients attempting to communicate their needs (e.g., Arthur, 2003) and that staff reactions to challenging behaviours may inadvertently help to maintain the behaviours (e.g., Mitchell & Hastings, 1998). Furthermore, Weiner's (1986) attribution theory proposes that if staff believe that individuals have control over their challenging behaviours then they are less likely to provide support. Therefore, training which helps to enhance the communication skills of staff, increase their awareness of their reactions to challenging behaviours, and explores the possible functions of challenging behaviours may help to reduce aggressive incidents. Being able to reduce incidents of challenging behaviour may also help to reduce the likelihood of staff burnout, as explained by Thompson (2010). In addition, training in the subject of professional boundaries may highlight the importance of consistent working practices as well as reduce confusion for patients and the resulting levels of aggression. Finally, such a training programme may also assist the organisation in retaining regular members of staff, due to their having been suitably equipped to work with the client group. This would lower the use of unfamiliar agency staff which had been observed to unsettle the patients and contribute to aggressive incidents in the research setting.

The thematic analysis highlighted the challenges of working with the IDD population as well as the staff's awareness of factors which can impact upon the social climate and patient behaviours. The focus groups enabled the researcher to gather qualitative, and richer,

data relating to staff views of working with offenders with IDD. Because the researcher also worked within the research setting they were familiar with the issues that were raised within the discussions. This meant that they could provide further information relating to the challenges of working within the current setting than someone who did not work within the setting. However, being familiar with the setting could also have brought some potential bias into the analysis and interpretation of the results. This bias was something of which the researcher remained aware in order to ensure, as much as possible, that the analysis accurately represented the views of the focus group members. Despite the initial codes and data extracts being checked for reliability during the coding process, the researcher acknowledges that using a second person to code the original data might have reduced the potential for interpreter bias even further. Research has shown that even though multiple coders might 'package' themes differently, they can show close agreement on basic themes during qualitative analysis (Armstrong, Gosling, Weinman, & Marteau, 1997). Nevertheless, the thematic analysis indicated that further measures could be put in place to help improve the social climate within secure IDD services, for example, staff training which focuses on working with individuals with IDD as well as robust assessment procedures to ensure that new admissions are placed in the most appropriate environment.

The fourth aim of the research was to investigate the frequency of incidents across the low secure, locked rehabilitation, and step-down settings during the four-month period of the study and examine any relationships between the scores from the adapted EssenCES and AIDO questionnaires. There was a significant difference found in the frequency of incidents between the three settings. When pairwise comparisons were conducted, significant differences were found between the frequency of incidents between the locked rehabilitation and step-down settings, and the low secure and step-down settings. No significant difference was found in the frequency of incidents between the low secure and locked rehabilitation settings. When compared to low secure, there was a higher frequency of incidents in locked rehabilitation over the four-month period. Again, this may be a result of the patients not being 'typical' of those usually residing within rehabilitation settings. Indeed, the independent provider's incident database indicated that four of the patients in locked rehabilitation had a higher number of incidents over the four-month period; these patients had their own dedicated support staff due to their level of need. These patients' incidents accounted for 67% of the total incidents for the locked rehabilitation settings. Without their incidents included, the mean incidents for locked rehabilitation over the four-month period reduced from 62 to

20.5. A statistical analysis was conducted with these incidents omitted; however, it showed the same results as when they were included in terms of the significant and non-significant differences in incidents between the settings. In addition, there were a higher percentage of patients diagnosed with moderate IDD in locked rehabilitation (40%) than in the low secure settings (20%). Such individuals may be more likely to have difficulties in communicating their needs which may lead to increased incidents of challenging behaviours, including aggression. Furthermore, there had been a slightly higher frequency of admissions and discharges in locked rehabilitation during the period of the study when compared to the low secure settings; two discharges and one admission compared to one discharge and one admission respectively. Indeed, Bowers et al. (2009a) found high patient turnover to be a contributing factor in the frequency of aggressive behaviours.

As discussed previously, staff were often required to work across the different settings; however this applied mainly to those working in the locked rehabilitation and step-down settings. Whilst the low secure staff were sometimes asked to provide support in other areas, they tended to be the most consistent in terms of staying within their designated setting. As such, the lower frequency of incidents in the low secure settings may partly be attributed to the consistency of the staff team. The thematic analysis highlighted that inconsistent staffing unsettled the patients and that working across units meant that it was difficult to adapt to working with different patients.

"…you've got to remember all the care plans…and [the patients on the unit] are all totally different…and you go to work with somebody else[on a different unit] who's [got] total freedom…"

It may therefore be that because low secure staff were not moved across different settings as much, they were able to build more effective working relationships with one another and the patients. This might have increased the efficiency with which they managed difficult situations before they escalated to levels which required intervention. Indeed, existing research has highlighted how positive and trusting relationships between staff and patients contribute to a more positive social climate (e.g., Fish & Culshaw, 2005; Fluttert, 2010). If staff frequently work across different settings there may be limited opportunities for them to build such relationships with patients. Despite the higher number of incidents, the average EssenCES score for locked rehabilitation was still slightly higher (i.e., more positive)

than that of low secure which may relate to the higher level of restrictions in the low secure setting; this is corroborated in other studies (e.g., Langdon et al., 2006; Willets et al., 2014).

There were no significant relationships found between the two questionnaire ratings and number of incidents across the three settings. The Spearman's Rho tests found a medium negative correlation between the Total EssenCES score and Total Incidents, as well as a large negative correlation between the Therapeutic Hold subscale and Total Incidents. This would make sense given that one would expect the EssenCES scores to be more positive when the frequency of incidents was lower; however, neither result was statistically significant. There was a large negative correlation found between the AIDO scores and frequency of incidents, which may indicate that the frequency of incidents was lower when staff views of working with offenders with IDD were more positive. However, this result was not statistically significant.

Conclusions

Chapter 2 highlighted the requirement for further social climate studies to be conducted within secure services for individuals with IDD. Chapter 3 emphasised the need for the EssenCES to be validated with a wider range of client groups, including the IDD population. Whilst the current study indicated that ratings of social climate and attitudes to working with offenders with IDD were more positive in settings with lower security levels, there were no significant differences in the scores across the three settings. The difference in the frequency of incidents across the three settings was found to be statistically significant, although not between the low secure and locked rehabilitation settings when pairwise comparisons were conducted. There was a medium negative correlation between the Total EssenCES score and Total Incidents, as well as a large negative correlation between the Therapeutic Hold subscale and Total Incidents. Furthermore, there was a large negative correlation found between the AIDO scores and frequency of incidents. However, none of the results were statistically significant. There are potential issues with the adapted EssenCES, and questions as to whether the accompanying visual aids and glossary sufficiently assisted the patient participants to understand the meaning of the items; this may therefore have affected patients' ratings. Given the communication difficulties that individuals with IDD experience it is important that further research is conducted into the adaptation of measures of social climate for this client group. There may be benefits to involving patients in the

adaptation of such measures to ascertain their views of what would make the assessment more user-friendly to complete. This will mean that such individuals' views are more likely to be heard and services can respond accordingly. In addition, previous research has highlighted the dangers of staff burnout when working with the IDD population (e.g., Thompson, 2010). Further research into the views of staff who work with individuals with IDD may facilitate the implementation of support systems to reduce staff burnout and assist staff to maintain a high quality of care. It is therefore hoped that this study will stimulate further research in the area of social climate within secure IDD services.

CHAPTER 5: GENERAL DISCUSSION

The aim of this thesis was to examine the links between patient perceptions of the social climate and staff views of working with offenders with IDD and the links to aggression within forensic IDD services. The key findings of each chapter are discussed in relation to these aims.

Key findings from Chapter 2: A systematic review

The systematic review highlighted that ratings of social climate are influenced by a number of factors including the security level of the environment (e.g., Langdon et al., 2006); staff-patient relationships (Long et al., 2011a); and patient characteristics such as mental illness (Dickens et al., 2014). Some studies found that patient and staff ratings of social climate differed, reflecting that patients and staff are within the same setting for different reasons (Røssberg & Friis, 2004). The review explored the influence that social climate has upon patient satisfaction with services (e.g., Bressington et al., 2011); their motivation to engage in their treatment (e.g., Beazley & Gudjonsson, 2010); and incidents of aggression (e.g., Bowers et al., 2009a). The reliability and validity of social climate measures used within the reviewed studies was confirmed; however, the WAS was not deemed reliable when administered to individuals with IDD (Bakken et al., 2012) and it has been recommended that the measure be reviewed to improve its psychometric properties (Røssberg & Friis, 2003). In addition, the EssenCES requires further validation studies to be conducted with different client groups and within a wider range of settings, for example, women's services, young offender institutions, and low secure settings (Tonkin, 2016). Further to the review's findings, it was proposed that organisations work to improve the social climate for both patients and staff in order to reduce aggression. This may include conducting a training needs analysis to identify the areas with which staff require support to perform their roles more effectively. A service evaluation may also highlight areas for improvement in terms of patient interventions and therapeutic activities. Furthermore, implementation of frameworks such as TIC (SAMHSA, 2014) and PIPEs (Brown, 2014; Turley et al., 2013), which have seen positive results in other settings, may improve the social climate for patients and staff. Organisations who adopt such measures may see a higher proportion of their patients engage in treatment, more positive patient-staff relationships, and a reduction in aggressive incidents.

Key findings from Chapter 3: A psychometric critique

This chapter highlighted that studies into the utility of the EssenCES as an assessment of social climate have elicited promising results. The critique examined the reliability and internal consistency of the measure which were found to be excellent (e.g., Tonkin et al., 2012). Furthermore, its scores correlate substantially with other social climate measures such as the CIES (Schalast & Groenewald, 2009); WES-10 (Røssberg & Friis, 2004); and GMI (Friis, 1986), thereby confirming its construct validity. In addition, the three-factor structure and internal consistency were confirmed by Howells et al. (2009). The EssenCES is a shorter assessment and takes less time to administer than, for example, the WAS (Moos & Houts, 1968). However, it could also be argued as to whether the number of items is sufficient to accurately measure its constructs of Patient Cohesion, Therapeutic Hold, and Experienced Safety. Furthermore, with the concept of therapeutic hold first being linked to individual psychotherapy (Rogers, 1961), it is unknown whether this level of relationship can exist between patients and staff where multiple patients reside in more challenging environments. The wording of the responses on the ordinal scale could also benefit from being revised in order to make it more 'user friendly', especially for such individuals as those with IDD. The critique highlighted that further validation of the EssenCES was necessary with a wider range of client groups and service settings (Tonkin, 2016). Indeed, this finding informed one of the aims of the study in Chapter 4 where the EssenCES was adapted to assess its utility with the IDD population.

Key findings from Chapter 4: Empirical research study

Patient questionnaires. The mean scores for the EssenCES increased (i.e., became more positive) as the security level of the setting decreased, which corroborates results from other studies (e.g., Langdon et al., 2006). However, statistical tests revealed that the differences in scores across the three settings were non-significant and the post-hoc test found the power of the statistical tests to be insufficient (Faul et al., 2007). Larger numbers of participants may have highlighted significant differences in the data; however, the majority of patients were unable to participate due to the severity of their IDD. Furthermore, in the focus groups which explored staff views of working with offenders with IDD, staff explained that some patients were not always placed appropriately. Therefore, the EssenCES scores may not necessarily represent how such settings would usually be rated, given that the patient mix

might not be representative of, say, a 'typical' locked rehabilitation setting. During the adaptation of the EssenCES there were difficulties identifying images which most accurately represented some items. Whilst the visual aids appeared to assist patients in answering the items, existing research has highlighted that individuals may interpret such visuals differently (e.g., Bell et al., 2017). The glossary also had to be used to clarify the meaning of some words as some items proved difficult for the patients to understand. During the development of the glossary it was difficult to identify alternative words which might be understood by the patients. This leaves questions as to the utility of the adapted EssenCES in the current study and whether the patients interpreted the item meanings in the same or similar ways.

Staff views of working with offenders with IDD. The mean scores for the AIDO increased (i.e., became more positive) as the security level of the setting decreased. Staff may therefore have more positive experiences in settings where restrictions are lower and there is less likelihood of aggression. However, the difference in scores was not statistically significant, which may be due to the insufficient power indicated in the post-hoc test (Faul et al., 2007). Furthermore, because staff often worked across settings and were exposed to the different patient groups this may have influenced the lack of significant differences in the AIDO scores. Additionally, a number of staff commented that some of their answers were not influenced by the fact that the questions related to individuals with IDD, but because of their offender status. Concerns relating to the wording of the items in the adapted ATP have been discussed previously; therefore, further revision of the items may be needed to ensure that the adapted ATP is an appropriate and accurate measure of staff views of working with offenders who have an IDD.

The staff focus groups exploring views of working with offenders with IDD elicited three overarching themes: 1) *Working with offenders with IDD*, which included communication difficulties, risk management, and unrealistic expectations from staff and external agencies; 2) *Systemic considerations,* where business-related decisions were sometimes believed to take precedence over patient-centred decisions, and that individual restrictions and freedoms could cause resentment amongst the patients; and 3) *Factors affecting the social climate*, which included staff not being appropriately trained to work with individuals with IDD, the environment not being conducive to therapeutic practices, patients being inappropriately placed in certain settings, and inconsistent staff working practices.

Frequency of incidents and the relationship with questionnaire scores. There was a higher frequency of incidents in the locked rehabilitation than in the low secure settings and no incidents within the step-down settings. The difference in the frequency of incidents across the three settings was found to be statistically significant. Pairwise comparisons indicated significant differences in the frequency of incidents between the low secure and step-down settings, and the locked rehabilitation and step-down settings; however, there was no significant difference found in the number of incidents between the low secure and locked rehabilitation settings. The level of statistical power in the post-hoc test was deemed to be insufficient which may be due to the small sample size; therefore, the significant test result should be treated with caution. There are a number of reasons why incidents may have been higher in the locked rehabilitation than the low secure settings. Firstly, there were a slightly higher number of discharges and admissions in the locked rehabilitation settings, which Bowers et al. (2009) found could increase levels of aggression. Furthermore, four of the patients in the locked rehabilitation settings received more intense levels of staff support and these same patients were found to have a higher number of incidents over the four-month period. Finally, staff within the low secure environments did not work across settings as much as the other staff. This may mean that they had more opportunity to build effective working relationships with their colleagues and patients, meaning potential incidents were managed before they escalated. Indeed, effective therapeutic relationships between staff and patients have been found to promote a more positive social climate (e.g., Fluttert, 2010). These factors might therefore have contributed towards the lower frequencies of incidents in the low secure settings. Statistical tests indicated no significant relationships between the EssenCES or AIDO scores and frequency of incidents which may also have been related to the insufficient power measured in the post-hoc tests (Faul et al., 2007).

Implications for practice and research

The study highlighted the challenges which secure IDD services face in providing effective support and treatment to their patients. Research has identified that the social climate plays an important part in the progress of individuals within secure services (e.g., Beazley & Gudjonsson, 2010; Schubert et al., 2012). Indeed, improvements in settings have been observed through implementation of frameworks such as TIC (SAMHSA, 2014) and

PIPEs (Brown, 2014; Turley et al., 2013). Therefore, the overall message for organisations overseeing secure IDD services is to develop environments to maximise the outcomes for individuals residing in those settings. This would seem more pertinent within IDD services where such individuals require greater levels of support to help them progress through their treatment.

Organisations can address this in a number of ways. Firstly, induction training should equip staff with knowledge of individuals with IDD, what difficulties they experience (e.g., communication) and how these difficulties can manifest (e.g., challenging behaviours). As Weiner (1986) discussed, if staff are able to understand the reasons for challenging behaviours then they are more likely to provide support. Training should also address how consistent working practices can help patients to feel safe and ultimately reduce incidents of aggression. In terms of ward environments, consideration should be given to reducing patient numbers on wards in exchange for increased space, although the financial implications have been acknowledged. Furthermore, whilst it is accepted that organisations need to ensure the longevity of the business, new referrals should be scrutinised in terms of their suitability for treatment and the environment into which they may be placed. Finally, once recruited, consideration should be given to staff being assigned to work in one specific setting for a minimum period of time. This would rely upon the organisation having sufficient staffing levels across all settings, but the importance of consistent staff teams should not be underestimated. If staff were given the opportunity to work within the same environment for a set period, this would enable them to form effective working relationships with other members of the clinical team which may increase the efficiency with which the team manage incidents of aggression. Furthermore, consistency of staff gives more opportunities to build effective therapeutic relationships with patients. This helps in the development of a positive social climate (e.g., Fish & Culshaw, 2005; Fluttert, 2010) and could therefore help patients with their progress in treatment (e.g., Beazley & Gudjonsson, 2010). If staff then wish to move into other settings the transitions should be gradual to give patients and staff the opportunity to familiarise themselves with one another. Bowers et al. (2009a) found that high patient turnover can increase the frequency of aggressive incidents. It would therefore seem reasonable to assume that high staff turnover might have a similar impact given that the focus group discussions highlighted that unfamiliar staff were linked to unsettled behaviours in some patients.

Given the difficulties in recruiting patients who were able to participate, future social climate studies in IDD settings should focus on gathering larger sample sizes to mitigate for the possibility that a proportion of patients may not have capacity to consent to take part. Furthermore, unit dynamics can fluctuate from one day to the next in IDD settings meaning that cross-sectional studies may not provide an accurate reflection of the views of patients. As such, longitudinal studies may help to control for consistency in social climate ratings. The current study has highlighted the difficulties of adapting assessments for use with the IDD population. It would be prudent to make further revisions to the adapted EssenCES for this to be trialled within other secure IDD settings to assess whether it measures the constructs it sets out to measure. In terms of staff attitudes to working with offenders with IDD, research which utilises larger samples may enable further examination of the potential links between staff attitudes and social climate. As highlighted previously, working with the IDD population can present with potentially higher occurrences of staff burnout which could impact upon patient care (Thompson, 2010). Therefore, further research may help to identify appropriate support for staff in order to reduce the likelihood of burnout, meaning that staff can maintain the level of care that they provide to individuals with IDD.

Strengths and limitations of the thesis

This study included an exploration of the perceptions of social climate with an under-represented client group, namely individuals with IDD. A strength of this study relates to the systematic review, for which a robust search strategy was employed and which highlighted the factors that can lead to negative views of social climate. This led to an exploration of the impact of negative views upon the immediate environment. The review also included studies which found the potential benefits of promoting a positive social climate for both patients and staff. The lack of studies exploring the IDD population's views of social climate was also highlighted in the review.

Although the critique in Chapter 3 found the EssenCES to be a reliable and valid social climate assessment, it also noted that further validation studies were necessary with a wider range of client groups and settings. In the present study, some patients had difficulty in understanding some of the items of the adapted EssenCES and it may therefore be beneficial to revise the language and the scale in order to facilitate easier completion of the assessment for this client group. As such, the present study confirmed the need for further validation of

the EssenCES with the IDD population in order that the views of this client group can be better represented in the social climate literature.

Chapter 4 detailed the research project. The cross-sectional nature of the study meant that data was only gathered from one point in time whereas a longitudinal study might help to ensure that patient and staff ratings were consistent over time. A larger number of patient and staff participants may have helped to detect statistical differences in the data; however, the majority of eligible patient participants were deemed to lack capacity to consent to participate. As such, larger-scale social climate studies of individuals with IDD may be required in the event that a proportion of individuals may not be able to participate. Given the issues with adapting the EssenCES and ATP assessments, further refinements would be pertinent for the use of these measures in future studies. Furthermore, the fact that many staff worked across the different settings may have impacted upon the ratings that staff gave on the adapted ATP. It would therefore be important to control for this variable in future studies, perhaps by gathering data from hospitals which were not comprised of mixed settings or where it could be guaranteed that staff did not work across settings.

The current study was unable to identify any significant differences in patients' social climate ratings and staff views of working with offenders with IDD across different settings. However, both questionnaire scores became more positive as the security level of the setting decreased, which corroborates the results of other studies (e.g., Langdon et al., 2006). There were no significant relationships found between the number of incidents and the questionnaire ratings. As previously discussed a number of factors may have influenced the lack of significant results. The thematic analysis highlighted the challenges of working with the IDD population and the factors which can influence the social climate. The analysis enabled a more in-depth exploration of staff views of working with offenders with IDD. However, such analysis is open to the risk of bias from the individual conducting the analysis and using a second coder would therefore have helped to reduce any interpreter bias.

Summary and conclusions

There are few studies which have explored perceptions of social climate with individuals in secure IDD services. This may, in part, be linked to the fact that there are no social climate measures which have been adapted for use with this client group. This thesis succeeded in highlighting the challenging conditions experienced in secure IDD services which may impact upon ratings of social climate. It is hoped that further refinement of the

adapted EssenCES will be implemented in order that the measure can successfully be used with the IDD population. Furthermore, it would be beneficial for organisations overseeing the delivery of secure forensic IDD services to ensure the appropriate training and support of staff. This would help to equip staff with the necessary skills to work effectively with the client group and hopefully reduce incidents of aggression, whilst guarding against staff burnout. Furthermore, changes made to the environment may also lead to ward layouts which are more conducive to a positive therapeutic environment for all concerned. Finally, the implementation of frameworks such as TIC (SAMHSA, 2014) and PIPEs (e.g., Turley et al., 2013) should be given serious consideration as these have shown some promising results relating to improvements in the social climate.

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APPENDICES

Appendix 1: Ovid Search Platform – output from PsychINFO (no. of hits in brackets)

1. (view* or opinion* or feeling* or thought* or perceiv* or belie* or rate* or rating* or measure* or attitud* or percept* or viewpoint* or concept* or think* or knowledge* or impress* or sense* or awareness* or notion* or judgement* or judgment*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (4394993)

2. limit 1 to yr="1990 - 2017" (1929781)

3. ((social* or institut* or therapeutic* or organi?ation* or unit* or ward* or hospital* or facilit*) adj4 (climate* or cohesi* or risk* or safe* or ambi?n* or surround* or morale* or milieu* or atmospher* or support* or condition* or environment* or service*)).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (356290)

4. limit 3 to yr="1990 - 2017" (165831)

5. (patient* violen* or patient* abuse* or peer* violen* or risk* behavio?r* or aggress* behavio?r* or aggress* inciden* or violen* behavio?r* or threat* behavio?r* or ((physical* or verbal*) adj4 (inciden* or violen* or threat* or disorder* or conflict* or disrupt* or abus* or aggress* or assault* or hostil* or bull* or attack* or rage* or anger* or angry* or riot* or fight*or victim*))).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (176394)

6. limit 5 to yr="1990 - 2017" (79197)

7. (offen* or convict* or patient* or client* or crim* or delinquen* or incarcerat* or devian* or detain* or antisocial* or correctional* or forensic* or service* user*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (1597543)

8. limit 7 to yr="1990 - 2017" (716606)

9. ((mental* or secur* or mental* health* or psychiatr* or treatment* or low* secur* or medium* secur* or high* secur* or locked* rehab* or resident* care*) adj4 (hospital* or unit* or ward* or institut* or service* or clinic* or asylum* or sanatorium* or setting* or facilit* or state* hospital*)).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (316285)

10. limit 9 to yr="1990 - 2017" (133797)

11. 1 and 2 and 3 and 4 and 5 and 6 and 7 and 8 and 9 and 10 (320)

Appendix 2: List of excluded studies (*n*=40) and reasons for exclusion

Did not assess staff and/or patient perceptions of social climate (*n*=17)

Bilgin, H. (2009). An evaluation of nurses' interpersonal styles and their experiences of violence. *Issues in Mental Health Nursing*, *30*(4), 252-259. doi: 10.1080/01612840802710464

Bowers, L. (2009). Association between staff factors and levels of conflict and containment on acute psychiatric wards in england. *Psychiatric Services*, 6*0*(2), 231-239. doi: 10.1176/appi.ps.60.2.231

Bowers, L., Allan, T., Simpson, A., Jones, J., & Whittington, R. (2009b). Morale is high in acute patient psychiatry. *Social Psychiatry and Psychiatric Epidemiology*, 44(1), 39-46. doi: 10.1007/s00127-008-0396-z

Cheung, P., Schweitzer, I., Tuckwell, V., & Crowley, K. C. (1996). A prospective study of aggression psychiatric patients in rehabilitation among wards. *Australian and New Zealand Journal of Psychiatry, 30*(2), 257-262. doi: 10.3109/00048679609076103

Cibis, M. L., Wackerhagen, C., Müller, S., Lang, U. E., Schmidt, Y., & Heinz, A. (2017). Comparison of aggressive behavior, compulsory medication and absconding behavior between open and closed door policy in an acute psychiatric ward. *Psychiatrische Praxis*, *44*(3), 141-147. doi: 10.1055/s-0042-105181

Daffern, M., Mayer, M., & Martin, T. (2004). Environment contributors to aggression in two forensic psychiatric hospitals. *International Journal of Forensic Mental Health, 3*(1), 105-114. doi: 10.1080/14999013.2004.10471200

Daffern, M., Tonkin, M., Howells, K., Krishnan, G., Ijomah, G., & Milton, J. (2010). The impact of interpersonal style and perceived coercion on aggression and self-harm in personality-disordered patients admitted to a secure psychiatric hospital. *The Journal of Forensic Psychiatry & Psychology, 21*(3), 426-445. doi: 10.1080/14789940903505951

Flannery, R. B., Hanson, M. A., Penk, W. E., & Flannery, G. J. (1996). Violence and the lax milieu?: Preliminary data. *Psychiatric Quarterly, 67*(1), 47-50. doi: 10.1007/BF02244274

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Kelly, E. L., Subica, A. M., Fulginiti, A., Brekke, J. S., & Novaco, R. W. (2015). A cross-sectional survey of factors related to inpatient assault of staff in a forensic psychiatric hospital. *Journal of advanced nursing*, *71*(5), 1110-1122. doi: 10.1111/jan.12609

Kho, K., Sensky, T., Mortimer, A., & Corcos, C. (1996). Prospective study into factors associated with aggressive incidents in psychiatric acute admission wards. *The British Journal of Psychiatry, 172*(1), 38-43. doi: 10.1192/bjp.172.1.38

Lantta, T., Anttila, M., Kontio, R., Adams, C. E., & Välimäki, M. (2016). Violent events, ward climate and ideas for violence prevention among nurses in psychiatric wards: A

focus group study. *International journal of mental health systems*, *10*(1), 27. doi: 10.1186/s13033-016-0059-5

Lewin, T. J., Carr, V. J., Conrad, A. M., Sly, K. A., Tirupati, S., Cohen, M., Ward, P. B., & Coombs, T. (2012). Shift climate profiles and correlates in acute psychiatric inpatient units. *Social Psychiatry and Psychiatric Epidemiology, 47*(9), 1429-1440. doi: 10.1007/s00127-011-0448-7

Nijman, H. L. I., à Campo, J. M. L. G., Ravelli, D. P., & Merckelbach, H. L. G. J. (1999). A tentative model of aggression on inpatient psychiatric wards. *Psychiatric Services, 50*(6), 832-834. doi: 10.1176/ps.50.6.832

Olver, J., Love, M., Daniel, J., Norman, T., & Nicholls, D. (2009). The impact of a changed environment on arousal levels of patients in a secure extended rehabilitation facility. *Australasian Psychiatry, 17*(3), 207-211. doi: 10.1080/10398560902839473

Papadopoulos, C., Bowers, L., Quirk, A., & Khanom, H. (2012). Events preceding changes in conflict and containment rates on acute psychiatric wards. *Psychiatric Services, 63*(1), 40-47. doi: 10.1176/appi.ps.201000480

Salamin, V., Schuwey-Hayoz, A., & Bickel, G. G. (2010). Epidemiology of violent behaviour in wards of adult psychiatry: An analysis of the Swiss canton of Fribourg. *Schweizer Archiv fur Neurologie und Psychiatrie, 161*(1), 23-29. Retrieved from https://sanp.ch/resource/jf/journal/file/download/article/sanp.2010.02129/2010-01-080.pdf/

Full text articles from hand searches that could not be obtained (*n*=6)

Jansson, J. A., & Eklund, M. (2002). How the inner world is reflected in relation to perceived ward atmosphere among patients with psychosis. *Social Psychiatry and Psychiatric Epidemiology, 37*(11), 519-526. doi: 10.1007/s00127-002-0584-1

Jansson, J. A., & Eklund, M. (2002). Stability of perceived ward atmosphere over time, diagnosis and gender for patients with psychosis. *Nordic journal of psychiatry*, *56*(6), 407-412. doi: 10.1080/08039480260389316

Main, S., McBride, A. B., & Austin, J. K. (1991). Patient and staff perceptions of a psychiatric ward environment. *Issues in Mental Health Nursing*, *12*(2), 149-157. doi: 10.3109/01612849109040510

Melle, I., Friis, S., Hauff, E., Island, T. K., Lorentzen, S., & Vaglum, P. (1996). The importance of ward atmosphere in inpatient treatment of schizophrenia on short-term units. *Psychiatric Services, 47*(7), 721-726. doi: 10.1176/ps.47.7.721

Schjødt, T., Middelboe, T., Mortensen, E., & Gjerris, A. (2003). Ward atmosphere in acute psychiatric inpatient care: Differences and similarities between patient and staff perceptions. *Nordic Journal of Psychiatry, 57*(3), 215–220. doi: 10.1080/08039480310001382

Smith, J., Gross, C., & Roberts, J. (1996). The evolution of a therapeutic environment for patients with long-term mental illness as measured by the Ward Atmosphere Scale. *Journal of Mental Health*, *5*(4), 349-360. doi: 10.1080/09638239619266

Research articles from experts which focused on the performance of social climate measures (*n*=6)

Chester, V., McCathie, J., Quinn, M., Ryan, L., Popple, J., Loveridge, C., & Spall, J. (2015). Clinician experiences of administering the Essen Climate Evaluation Schema (EssenCES) in a forensic intellectual disability service. *Advances in Mental Health and Intellectual Disabilities, 9*(2), 70-78. doi: 10.1108/AMHID-06-2014-0024

Howells, K., Tonkin, M., Milburn, C., Lewis, J., Draycot, S., Cordwell, J., Price, M., Davies, S., & Schalast, N. (2009). The essences measure of social climate: A preliminary validation and normative data in UK high secure hospital settings. *Criminal Behaviour and Mental Health, 19*(5), 308-320. doi: 10.1002/cbm.745

Quinn, M., Thomas, C., & Chester, V. (2012). The essen climate evaluation schema measure of social climate in a secure service for people with intellectual disabilities. *Advances in Mental Health and Intellectual Disabilities, 6*(4), 171-178. doi: 10.1108/20441281211236562

Schalast, N., Redies, M., Collins, M., Stacey, J., & Howells, K. (2008). Essences, a short questionnaire for assessing the social climate of forensic psychiatric wards. *Criminal Behaviour and Mental Health, 18*(1), 49-58. doi: 10.1002/cbm.677

Tonkin, M. (2016). A review of questionnaire measures for assessing the social climate in prisons and forensic psychiatric hospitals. *International Journal of Offender Therapy and Comparative Criminology, 60*(12), 1376-1405. doi:10.1177/0306624X15578834

Tonkin, M., Howells, K., Ferguson, E., Clark, A., Newberry, M., & Schalast, N. (2012). Lost in translation? Psychometric properties and construct validity of the english essen climate evaluation schema (EssenCES) social climate questionnaire. *Psychological Assessment, 24*(3), 573-580. doi: 10.1037/a0026267

Study setting was not secure mental health and/or forensic (*n*=5)

Agervold, M., & Andersen, L. P. (2006). Incidence and impact of violence against staff on their perceptions of the psychosocial work environment. *Nordic Psychology, 58*(3), 232-247. doi: 10.1027/1901-2276.58.3.232

Eklund, M., & Hansson, L. (1997). Relationships between characteristics of the ward atmosphere and treatment outcome in a psychiatric day-care unit based on occupational therapy. *Acta Psychiatrica Scandinavica, 95*(4), 329-335. doi: 10.1111/j.1600-0447.1997.tb09640.x

Eklund, M., & Hansson, L. (2001). Perceptions of the real and ideal ward atmosphere among trainees and staff before and after the introduction of a new work rehabilitation model. *Acta European Psychiatry, 16*(5), 299-306. doi: 10.1016/S0924-9338(01)00582-X

James, I. J., Milne, D. L., & Firth, H. (1990). A systematic comparison of feedback and staff discussion in changing the ward atmosphere. *Journal of Advanced Nursing, 15*(3), 329-336. doi: 10.1111/j.1365-2648.1990.tb01821.x

Schaefer, J. A., & Moos, R. H. (1996). Effects of work stressors and work climate on long-term care staff's job morale and functioning. *Research in Nursing & Health, 19*(1), 63-73. doi: 10.1002/(SICI)1098-240X(199602)19:1<63::AID-NUR7>3.0.CO;2-J

Systematic Literature Review (*n*=3)

Cornaggia, C. M., Beghi, M., Pavone, F., Barale, F. (2011). Aggression in psychiatry wards: A systematic review. *Psychiatry Research, 189*(1), 10-20. doi: 10.1016/j.psychres.2010.12.024

Gadon, L., Johnstone, L., & Cooke, D. (2006). Situational variables and institutional violence: A systematic review of the literature. *Clinical Psychology Review, 26*(5), 515-534. doi: 10.1016/j.cpr.2006.02.002

Welsh, E., Bader, S., & Evans, S. E. (2013). Situational variables related to aggression in institutional settings. *Aggression and Violent Behavior, 18*(6), 792-796. doi: 10.1016/j.avb.2013.10.003

Research articles from experts which sampled prison populations (*n*=2)

Day, A., Casey, S., Vess, J., & Huisy, G. (2011). Assessing the social climate of prisons. *Criminology Research Council*. Retrieved from http://dro.deakin.edu.au/eserv/DU:30036920/day-assessingthesocial-2011.pdf

van der Helm, P., Stams, G-J., van Genabeek, M., & van der Laan, P. (2012). Group climate, personality, and self-reported aggression in incarcerated male youth. *The Journal of Forensic Psychiatry & Psychology, 23*(1), 23-39. doi: 10.1080/14789949.2011.633615

Full article from database search that could not be accessed (*n*=1)

Røssberg, J. I., Melle, I., Opjordsmoen, S., & Friis, S. (2006). Patient satisfaction and treatment environment: A 20-year follow-up study from an acute psychiatric ward. *Nordic journal of psychiatry*, *60*(2), 176-180. doi: 10.1080/08039480600583894

Appendix 3: Screening and Selection Tool

	Include if...	**Exclude if...**
Population	☐ Participants are aged 18 and over	☐ Participants are under 18
	☐ Participants have mental health diagnoses and/or forensic histories	☐ Participants have no history of mental health problems and/or forensic profiles
Service setting	☐ Setting is forensic and/or mental health	☐ Prison setting or non-secure service
Phenomenon of Interest	☐ Perceptions of social climate	☐ Perceptions social climate do not form part of the study
Research design	☐ Quantitative or qualitative	☐ Narrative review, systematic review, editorial, commentary
Publication type	☐ Published source	☐ Unpublished (e.g., dissertation or thesis)
Language	☐ English	☐ Any other language
Decision		

Appendix 4: Quality Assessment Scoring Sheet for Qualitative Studies

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
1. Was there a clear statement of the aims of the research? Consider: • What was the goal of the research? • Why was it thought important? • Its relevance					
2. Is a qualitative research methodology appropriate? Consider: • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?					
3. Was the research design appropriate to address the aims of the research? Consider: If the researcher has justified the research/design (e.g., have they discussed how they decided which method to use?)					
4. Was the recruitment strategy appropriate to the aims of the research? Consider: • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g., why some people chose not to take part)					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
5. Was the data collected in a way that addressed the research issue? Consider: • If the setting for data collection was justified • If it is clear how data were collected (e.g., focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g., for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g., tape recordings, video material, notes etc) • If the researcher has discussed saturation of data					
6. Has the relationship between researcher and participants been adequately considered? Consider: • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
7. Have ethical issues been taking into consideration? Consider: • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g., issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee					
8. Was the data analysis sufficiently rigorous? Consider: • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
9. Is there a clear statement of findings? Consider: • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g., triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question					
10. How valuable is the research? Consider: • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g., do they consider the findings in relation to current practice or policy? ,or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used					

Appendix 5: Quality Assessment Scoring Sheet for Cohort Studies

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
1. Did the study address a clearly focused issue? A question can be focused in terms of: • The population studied • The risk factors studied • Whether the study tried to detect a beneficial or harmful effect?					
2. Was the cohort recruited in an acceptable way? Look for selection bias which might compromise the generalisability of the findings. • Was the cohort representative of a defined population? • Was there something special about the cohort? • Was everybody included who should have been included?					
3. Was the exposure accurately measured to minimise bias? Looking for measurement or classification bias: • Did they use subjective or objective measurements? • Do the measurements truly reflect what you want them to (have they been validated)? • Were all the subjects classified into exposure groups using the same procedure					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
4. Was the outcome accurately measured to minimise bias? Look for measurement or classification bias: • Did they use subjective or objective measurements? • Do the measures truly reflect what you want them to (have they been validated)? • Has a reliable system been established for detecting all the cases (for measuring disease occurrence)? • Were the measurement methods similar in the different groups? • Were the subjects and/or the outcome assessor blinded to exposure (does this matter)?					
5. (a) Have the authors identified all important confounding factors? List the ones you think might be important, that the author missed **(b) Have they taken account of the confounding factors in the design and/or analysis?** Look for restriction in design, and techniques e.g., modelling, stratified, regression, or sensitivity analysis to correct, control or adjust for confounding factors.					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
6. (a) Was the follow up of subjects complete enough? **(b) Was the follow up of subjects long enough?** Consider: • The good or bad effects should have had long enough to reveal themselves • The persons that are lost to follow-up may have different outcomes than those available for assessment • In an open or dynamic cohort, was there anything special about the outcome of the people leaving, or the exposure of the people entering the cohort?					
7. What are the results of this study? Consider • What are the bottom line results? • Have they reported the rate or the proportion between the exposed/unexposed, the ratio/the rate difference? • How strong is the association between exposure and outcome (RR,)? • What is the absolute risk reduction (ARR)?					
8. How precise are the results? Look for the range of the confidence intervals, if given.					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
9. Do you believe the results? Consider: • Big effect is hard to ignore! • Can it be due to chance, bias or confounding? • Are the design and methods of this study sufficiently flawed to make the results unreliable? • Consider Bradford Hills criteria (e.g., time sequence, dose-response gradient, strength, biological plausibility)					
10. Can the results be applied to the local population? Consider whether: • A cohort study was the appropriate method to answer this question • The subjects covered in this study could be sufficiently different from your population to cause concern • Your local setting is likely to differ much from that of the study • You can quantify the local benefits and harms					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
11. Do the results of this study fit with other available evidence? Consider all the available evidence from RCT's, systematic reviews, cohort studies and case-control studies as well for consistency.					
12. What are the implications of this study for practice? Consider • One observational study rarely provides sufficiently robust evidence to recommend changes to clinical practice or within health policy decision making • For certain questions observational studies provide the only evidence • Recommendations from observational studies are always stronger when supported by other evidence					

Appendix 6: Quality Assessment Scoring Sheet for Cross-sectional Studies

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
1. Did the study address a clearly focused issue? Consider: • Was a clear background/rationale for the study given? • Were aims and objectives clearly stated? • Was the population studied made clear?					
2. (a) Were participants recruited in an acceptable way? Consider: • The eligibility criteria • Sources and methods of selection of participants **(b) Is there a clear description of the participant sample?** Consider: • Distribution of demographic/background (age, gender, SES, ethnicity) • Numbers of participants given at each stage of the study • Reasons for any non-participation at each stage • The number of participants with missing data					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
3. Were the data collected in a clear manner? Consider: • Are the methods of data gathering clearly explained? • Are justifications given for the data collection methods? • Do these methods address the research issue?					
4. Was an appropriate assessment measure used? Consider: • Was the measure used relevant to the area being examined? • Was the measure standardised? • Was the reliability/validity of the measure discussed? • Was the outcome assessed the same way across the sample?					
5. Was the data analysis sufficiently rigorous? Consider: • Are sufficient data presented to support the findings • Was the analysis sufficiently in-depth? • Are appropriate statistical tests used?					

Criterion	Yes (2)	Partly (1)	No (0)	Can't tell (0)	Comments
6. Are the results presented clearly? Consider: • Size of the p-value and confidence intervals. • Whether results have been adjusted to take account of any confounding variables					
7. Is there a clear statement of findings? Consider: • If the findings are explained clearly? • Discussion of the credibility of the findings. • Discussion of any limitations of the study • Have any potentially confounding variables been discussed? • If the findings are discussed in relation to the original aims and objectives of the study.					
8. How valuable is the research? Consider: • If the researchers have discussed whether/or how the findings can be transferred to other populations, or considered other ways the research may be used					

Appendix 7: Summary of the 11 excluded studies investigating social climate

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Brunt, D., & Rask, M. (2007). Sweden.	Aim: To contribute to existing research on ward atmosphere in psychiatric settings. Design: Qualitative study.	35 psychiatric patients (12 female, 23 male) Age range 19-53 years (*M*=33 years). Prevalent diagnoses were Schizophrenia, mood disorders, sexual disorders, substance abuse, and Personality Disorder. 104 nursing staff (39 female, 65 male). Age range was 21-63 years (*M*=43). 78% were mental health nurses, 14% were registered nurses.	Maximum-security forensic hospital.	Participants were asked to: "Name three distinguishing characteristics for the ward atmosphere on your ward".	N/A	Findings: Two main themes: 1) Internal characteristics: pre-conditions for interpersonal relations; interpersonal relations; order, organisation and rules; and feeling good/feeling secure. 2) External influences: staff – qualifications and organisation; treatment and pre-conditions for treatment; daily activities; and physical environment. Conclusion/s: The themes highlighted that staff-patient relationships are an important part of the ward atmosphere.	13/20 (65%)
Fish, R., & Culshaw, E. (2005). United Kingdom.	Aim: To explore staff and patients' experiences of incidents of aggression and physical intervention. Design: Qualitative study.	16 direct care staff (7 male, 9 female). 7 were nursing assistants, 6 were qualified learning disability nurses, and 3 were clinical team leaders. 9 patients (7 male, 2 female).	Medium secure learning disability service.	Using semi-structured interviews, participants were asked about incidents that involved physical intervention.	N/A	Findings: Patients cited other patients and the ward atmosphere as being the main reasons for aggressive behaviour. Conclusion/s: Physical intervention is sometimes unnecessary, and can be distressing for patients and staff.	13/20 (65%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Gebhardt, R. P., & Steinert, T. (1999). Germany.	Aim: To investigate whether ward atmosphere and aggressive behaviour will change when severely disturbed patients have been placed across several wards, rather than concentrated a lower number of wards. Design: Cohort study.	162 staff members (101 female, 61 male). 183 patients (101 female, 82 male). Mean age 38.4 years. Prevalent diagnoses were Schizophrenic disorders, and psychopathology as measured by the Brief Psychiatric Rating Scale (BPRS).	Psychiatric hospital – acute wards.	The German version of the Ward Atmosphere Scale (WAS).	No comments made on the reliability or validity of the WAS.	Findings: After the distribution of patients, a significant improvement in ward atmosphere and a reduction in aggression was found. Conclusion/s: Distributing severely disturbed patients has a positive impact on ward atmosphere.	14/24 (58%)
Kirby, S. (1997). United Kingdom.	Aim: To gain perceptions of ward atmosphere from staff and patients on a new long stay/rehabilitation and a pre-discharge ward. Design: Cross-sectional study.	16 staff and 13 patients. Age range of patients on the long-stay ward was 19-62 years (*M*=40.8). 63.6% had a diagnosed mental illness, and 36.3% had a diagnosed personality disorder.	Medium secure unit – forensic service.	The Ward Atmosphere Scale (WAS).	Previous research by Moos (1974) has shown its validity and reliability.	Findings: The WAS ratings of the long stay/rehabilitation ward were more positive than the pre-discharge ward. Patient and staff perceptions of each ward differed on some items of the WAS. Conclusion/s: The new ward functions more therapeutically, which may account for the more positive ratings seen in the WAS.	9/16 (56%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Lanza, M. L. L., Kayne, H. L., Hicks, C., & Milner, J. (1994). USA.	Aim: To examine ward climate in relation to the environmental factors which influence incidents of assault. Design: Cross-sectional study.	Staff and patients; characteristics not known.	Two acute, and four long-term psychiatric units – neuropsychiatric hospital.	The Ward Atmosphere Scale (WAS).	Moos (1974) has shown the validity and reliability of the WAS.	Findings: Staff rated the ward climate more highly than the patients. The ward with the fewest assaults reported the lowest scores on 'staff control' on the WAS. Conclusion/s: There were no definite relationships between ward atmosphere and assaults. Less acutely ill patients are more likely to be involved in incidents of assault; therefore, clinical interventions need to be designed for this group in order to reduce such incidents.	9/16 (56%)
Long, C. G., Langford, V., Clay, R., Craig, L., & Hollin, C. R. (2011b). United Kingdom.	Aim: To assess whether new wards would be perceived to have a more positive social climate than the old ward. Design: Cohort study.	9 patients (8 with a form of Personality Disorder, and 1 with Schizoaffective Disorder). Age range was 19-49 years, with the mean age being 39 years. 16 staff (9 nursing staff, 2 occupational therapists, a psychiatrist, psychologist, social worker, associate specialist, and ward manager).	Medium secure facility.	The Ward Atmosphere Scale (WAS).	No comments made on the reliability or validity of the WAS.	Findings: The new ward was associated with increased patient satisfaction on other measures. However, minimal changes in WAS scores. Conclusion/s: The findings add to existing research regarding the effects of social climate of secure services, especially for women.	10/24 (42%)

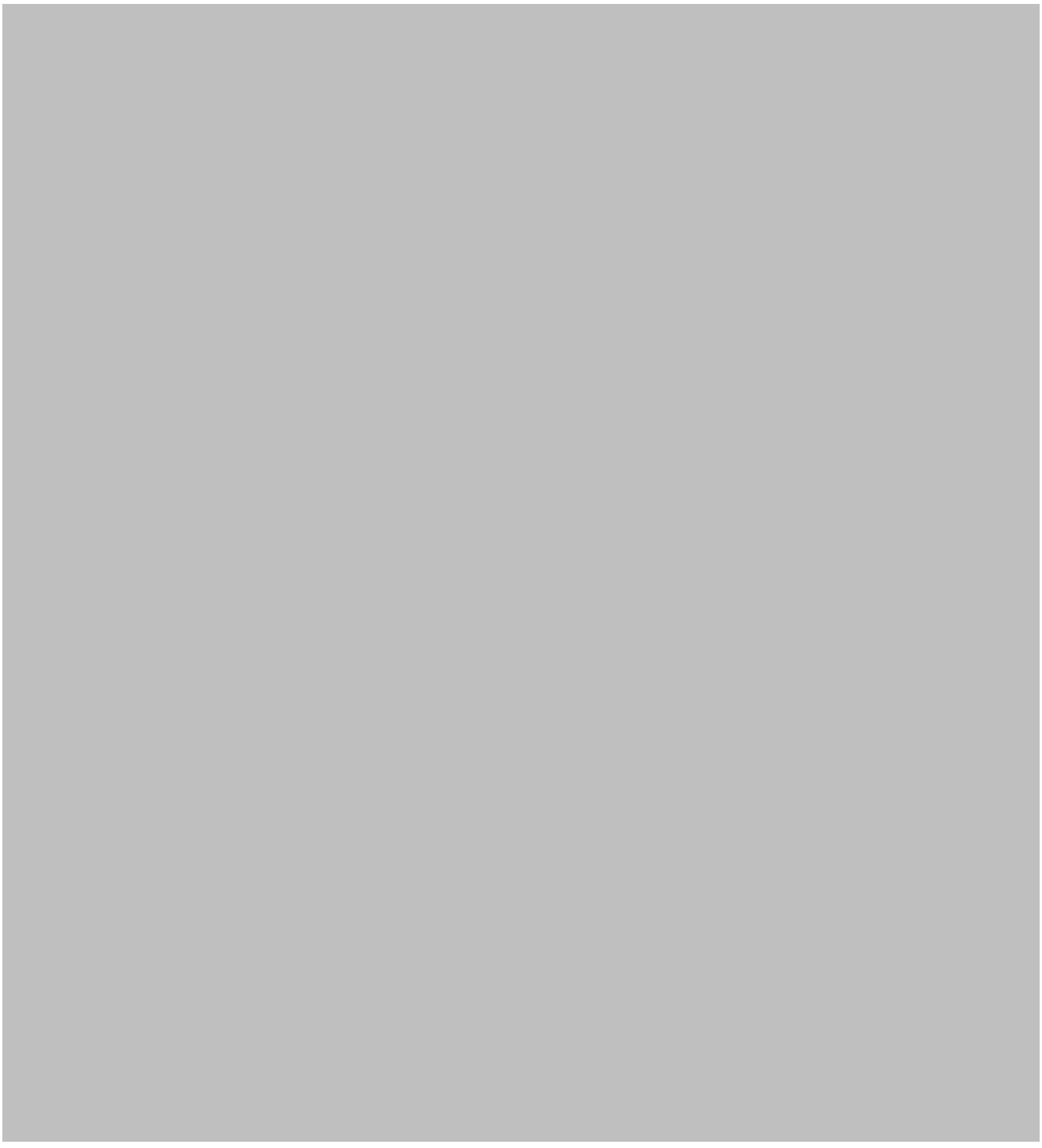
Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Meehan, T., McIntosh, W., & Bergen, H. (2006). Australia.	Aim: To gather patient perceptions of factors leading to aggressive behaviour, and strategies to reduce such behaviour. Design: Qualitative study.	Patients (22 male, 5 female). 85% had a diagnosis of Schizophrenia and 73% were found not guilty of their offence due to insanity.	One high acute ward, and one low acute ward - high secure forensic unit.	Patients were split between 5 focus groups, which were recorded and transcribed.	N/A	Findings: Themes relating to factors leading to aggression were: Environment, Empty Days, Staff Interactions, Medication, and Personal Characteristics of the Patients. Themes with regards to strategies to reduce aggression were: Early Intervention, Justice Issues, Activities to Relieve Boredom, Patient Control, and Staff Attitudes. Conclusion/s: Attempts at reducing violent behaviour must include the examination of the social and organisational factors which influence aggressive behaviour.	13/20 (65%)
Nesset, M. B., Røssberg , J. I., Almvik, R., & Friis, S. (2009). Norway.	Aim: To examine possible changes in patients' and nursing staff's perceptions of the ward atmosphere after lecturing staff about the importance of milieu therapy. Design: Cohort study.	50 nursing staff. 22 patients (19 male, 3 female). Age range 20-60 years (M = 35).	Forensic psychiatric hospital.	The Ward Atmosphere Scale Revised (WAS-R). This comprises 80 items as compared to the 100 items of the WAS.	Previous research by Friis (1986) has shown its validity and reliability.	Findings: Subsequent to the lectures, staff and patient perceptions of the treatment environment improved. Conclusion/s: The study indicates that the level of patients' involvement in therapy is reflected in their levels of satisfaction.	17/24 (71%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate used	Standardisation, validity & reliability of social climate measure cited in the paper	Findings/Conclusions	Quality assessment score
Røssberg , J. I., & Friis, S. (2004). Norway.	Aim: To examine the different perspectives of staff and patients of social climate. Design: Cross-sectional study.	640 staff members and 424 patients. Two-thirds of patients had diagnoses within the psychotic range.	Psychiatric hospital.	The Ward Atmosphere Scale Revised (WAS-R). This comprises 80 items as compared to the 100 items of the WAS.	The measure has 'satisfactory' reliability.	Findings: Staff ratings were significantly higher on nearly all of the WAS subscales. Conclusion/s: Staff tend to view the treatment environment more favourably than the patients.	11/16 (68%)
Timko, C., & Moos, R. H. (1998). USA.	Aim: Examined determinants of treatment climate in 89 psychiatric and substance abuse programs. Design: Cross-sectional study.	Samples of patients (M = 14), and samples of staff (M = 6).	Psychiatric and substance abuse settings.	Community-Oriented Programs Environment Scale (COPES).	No comments made on the reliability or validity of the COPES.	Findings: Partial correlations between staff's and patients' assessments of climate. Supportive climates were associated with clearer policies, and more health and treatment services. Conclusion/s: When determinants of treatment climate are more fully understood, focused interventions can be planned to try and enhance the climate.	11/16 (68%)
Viken, K., Lonning, V., Røstad, A-L., Korsmo, M., & Lorentzen, S. (2008). Norway	Aim: Investigated the environment of four psychogeriatric wards. Design: Cross-sectional study.	22 patients and 54 staff members. The majority of patients were aged 75 years and older. They were diagnosed with psychosis, non-psychosis, or dementia without psychosis.	Two psychogeriatric hospitals.	The Ward Atmosphere Scale Revised (WAS-R). This comprises 80 items as compared to the 100 items of the WAS.	No comments made on the reliability or validity of the WAS.	Findings: Staff scored more highly on some WAS subscales than the patients. Conclusion/s: Further research is required to investigate the ward atmosphere in psychogeriatric settings.	10/16 (63%)

Appendix 8: Data Extraction form

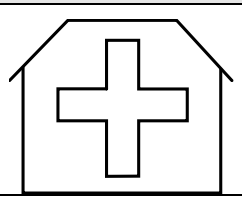
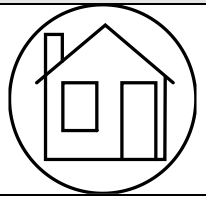
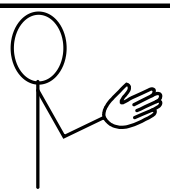
Generic study details	
Title of study	
Author(s)	
Year	
Country of study	
Specific information	
Aims and objectives of the study	
Methodology	
Design	
Measure(s) used	
Standardisation, reliability and validity of measure(s)	
Participant information	
Number of participants	
Gender	
Age range and mean age	
Service setting	
Study results	
Study findings	
Conclusions	
Quality	
Quality assessment score	

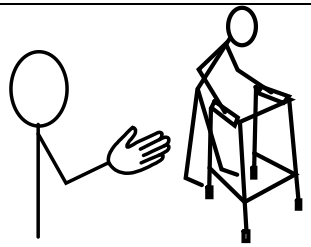
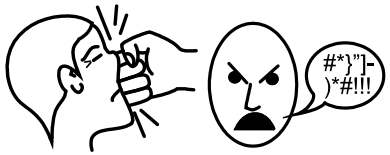
Appendix 9: Essen Climate Evaluation Schema (EssenCES)

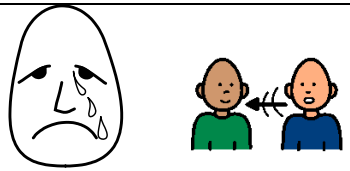


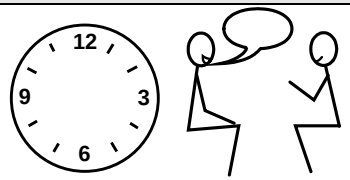
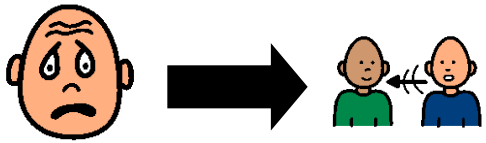
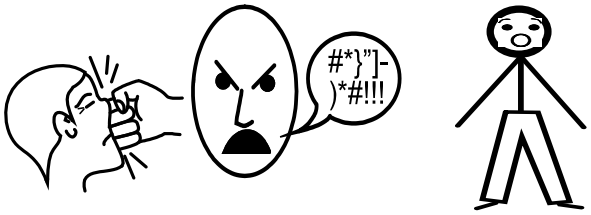
Appendix 10: Adapted EssenCES and Glossary

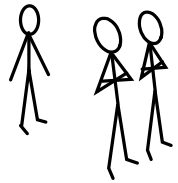
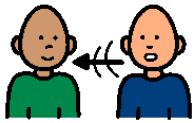
Participant code: **Essen Climate Evaluation Schema (EssenCES)**

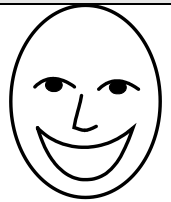
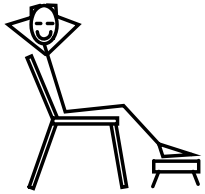
			I agree				
			Not at all	Little	Somewhat	Quite a lot	Very much
							
1			This ward has a homely atmosphere.				
2			The patients care for each other.				
3			Really threatening situations can occur here.				

			I agree				
			Not at all 	Little 	Somewhat 	Quite a lot 	Very much 
4		On this ward, patients can openly talk to staff about all their problems.					
5		Even the weakest patient finds support from his fellow patients.					
6		There are some really aggressive patients on this ward.					

			I agree				
			Not at all	Little	Somewhat	Quite a lot	Very much
7		Staff take a personal interest in the progress of patients.					
8		Patients care about their fellow patients' problems.					
9		Some patients are afraid of other patients.					

			I agree				
			Not at all 	Little 	Somewhat 	Quite a lot 	Very much 
10		Staff members take a lot of time to deal with patients.					
11		When a patient has a genuine concern, he finds support from his fellow patients.					
12		At times, members of staff are afraid of some of the patients.					

			I agree				
			Not at all 	Little 	Somewhat 	Quite a lot 	Very much 
13		Often, staff seem not to care if patients succeed or fail in treatment.					
14		There is good peer support among patients.					
15	 	Some patients are so excitable that one deals very cautiously with them.					

			I agree				
			Not at all 	Little 	Somewhat 	Quite a lot 	Very much 
16	 	Staff know patients and their personal histories very well.					
17	 	Both patients and staff are comfortable on this ward.					

EssenCES Glossary

Word	Meaning
Atmosphere	Feeling, mood
Cautiously	Carefully, with care
Excitable	Moody
Fail	Do not do well
Fellow	Member, equal
Genuine	Real
Homely	Comfortable
Occur	Happen
Openly	Honestly, freely
Peer	Equal
Personal	Special
Progress	Growth, moving forwards
Situation	Event, something that happens
Succeed	Do well
Threatening	Aggressive, frightening, scary

Appendix 11: Attitudes To Prisoners scale (ATP) and Attitudes to Intellectually Disabled Offenders (AIDO)

Attitudes to Prisoners scale

Sex: M ___ F ___ Age: _____ Date:_____

The statements listed below describe different attitudes towards Prisoners in the United Kingdom. There are no right or wrong answers, only opinions. You are asked to express Your feelings about each statement by indicating whether you (1) Disagree Strongly, (2) Disagree, (3) Undecided, (4) Agree, or (5) Agree Strongly. Indicate your opinion by writing the number that best describes your personal attitude in the left-hand margin. Please answer every item.

RATING SCALE

1	2	3	4	5
Disagree strongly	Disagree	Undecided	Agree	Agree strongly

	1. Prisoners are different from most people.
	2. Only a few prisoners are really dangerous.
	3. Prisoners never change.
	4. Most prisoners are victims of circumstances and deserve to be helped.
	5. Prisoners have feelings like the rest of us.
	6. It is not wise to trust a prisoner too far.
	7. I think I would like a lot of prisoners.
	8. Bad prison conditions just make a prisoner more bitter.
	9. Give a prisoner an inch and he'll take a mile.
	10. Most prisoners are stupid.
	11. Prisoners need affection and praise just like anybody else.
	12. You should not expect too much from a prisoner.
	13. Trying to rehabilitate prisoners is a waste of time and money.
	14. You never know when an prisoner is telling the truth.
	15. Prisoners are no better or worse than other people.
	16. You have to be constantly on your guard with prisoners.
	17. In general, prisoners think and act alike.
	18. If you give a prisoner your respect, he'll give you the same.
	19. Prisoners only think about themselves.
	20. There are some prisoners I would trust with my life.
	21. Prisoners will listen to reason.
	22. Most prisoners are too lazy to earn an honest living.
	23. I wouldn't mind living next door to an ex prisoner.
	24. Prisoners are just plain mean at heart.
	25. Prisoners are always trying to get something out of somebody.
	26. The values of most prisoners are about the same as the rest of us.
	27. I would never want one of my children dating an ex prisoner.
	28. Most prisoners have the capacity for love.
	29. Prisoners are just plain immoral.
	30. Prisoners should be under strict, harsh discipline.
	31. In general, prisoners are basically bad people.
	32. Most prisoners can be rehabilitated.
	33. Some prisoners are pretty nice people.
	34. I would like associating with some prisoners.
	35. Prisoners respect only brute force.
	36. If a prisoner does well in prison, he should be let out on parole.

Attitudes to Intellectually Disabled Offenders Questionnaire

Code: _____ Sex: M ___ F ___ Age: _____ Date:_____

The statements listed below describe different attitudes towards intellectually disabled offenders in the United Kingdom. There are no right or wrong answers, only opinions. You are asked to express Your feelings about each statement by indicating whether you (1) Disagree Strongly, (2) Disagree, (3) Undecided, (4) Agree, or (5) Agree Strongly. Indicate your opinion by writing the number that best describes your personal attitude in the left-hand margin. Please answer every item.

RATING SCALE

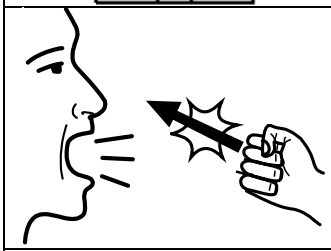
1	2	3	4	5
Disagree strongly	Disagree	Undecided	Agree	Agree Strongly

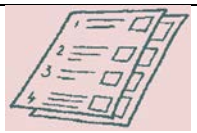
	1. Intellectually disabled offenders are different from most people.
	2. Only a few intellectually disabled offenders are really dangerous.
	3. Intellectually disabled offenders never change.
	4. Most intellectually disabled offenders are victims of circumstances and deserve to be helped.
	5. Intellectually disabled offenders have feelings like the rest of us.
	6. It is not wise to trust an intellectually disabled offender too far.
	7. I think I would like a lot of intellectually disabled offenders.
	8. Bad hospital conditions just make an intellectually disabled offender more bitter.
	9. Give an intellectually disabled offender an inch and they will take a mile.
	10. Most intellectually disabled offenders are stupid.
	11. Intellectually disabled offenders need affection and praise just like anybody else.
	12. You should not expect too much from an intellectually disabled offender.
	13. Trying to rehabilitate intellectually disabled offenders is a waste of time and money.
	14. You never know when an intellectually disabled offender is telling the truth.
	15. Intellectually disabled offenders are no better or worse than other people.
	16. You have to be constantly on your guard with intellectually disabled offenders.
	17. In general, intellectually disabled offenders think and act alike.
	18. If you give an intellectually disabled offender your respect, they will give you the same.
	19. Intellectually disabled offenders only think about themselves.
	20. There are some intellectually disabled offenders I would trust with my life.
	21. Intellectually disabled offenders will listen to reason.
	22. Most intellectually disabled offenders are too lazy to earn an honest living.
	23. I wouldn't mind living next door to an intellectually disabled offender.
	24. Intellectually disabled offenders are just plain mean at heart.
	25. Intellectually disabled offenders are always trying to get something out of somebody.
	26. The values of most intellectually disabled offenders are about the same as the rest of us.
	27. I would never want one of my children dating an ex intellectually disabled offender.
	28. Most intellectually disabled offenders have the capacity for love.
	29. Intellectually disabled offenders are just plain immoral.
	30. Intellectually disabled offenders should be under strict, harsh discipline.
	31. In general, intellectually disabled offenders are basically bad people.
	32. Most intellectually disabled offenders can be rehabilitated.
	33. Some intellectually disabled offenders are pretty nice people.
	34. I would like associating with some intellectually disabled offenders.
	35. Intellectually disabled offenders respect only brute force.
	36. If an intellectually disabled offender does well in hospital, they should be let out on a Community Treatment Order (CTO).

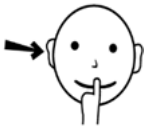
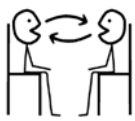
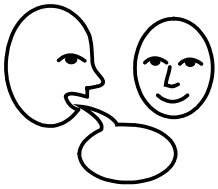
Appendix 12: Patient Information Sheet

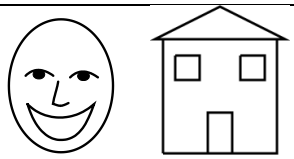
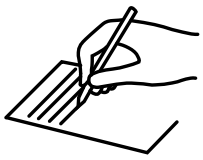
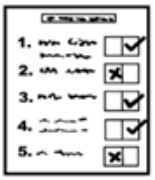
Patient Information Sheet

Study title: Patient perceptions of social climate and staff views of working with intellectually developmentally disabled (IDD) offenders: The influence on aggression in forensic IDD services.

 **Information sheet**	
	This information sheet will explain about the research that you have been asked to take part in. Research is a piece of work that helps us to learn about something.
	Sometimes, the place where someone lives can affect how they feel. This study is trying to find out how patients feel about the unit they live on.
	We want to know if these feelings make patients shout at other people or hit other people.
	If you want to take part there will be an interview. An interview is when someone asks you questions and you answer them. Your team that looks after you will know that you are taking part in the research.

 	In the interview, a questionnaire will be read to you. You will not have to read or write anything. The questions will ask you about your thoughts and feelings about the unit you live on, the staff, and other patients.
	The interview will take about 1 hour. You can have a break.
 	Jo is training to be a psychologist. She is doing this research as part of her training at the University of Birmingham. Professor Craig is Jo's supervisor and is helping Jo with the research.
  	If you want more information about the study, please contact Jo on [redacted] or Professor Craig at [redacted]@[redacted].co.uk If you are not happy with any part of the research, you can contact Jo on [redacted] or Professor Craig at [redacted]g@[redacted].co.uk If you want to speak to someone who does not work at the hospital, you can contact your advocate. Your staff will help you to contact these people.

 	The research is confidential. This means that no one will see your answers except Jo and Professor Craig. Everything you talk about in the interview is confidential unless you tell us something that you or someone is at risk of harm. We will talk to you before we tell anyone else.
	After the form has been filled in, it will be kept in a safe place.
	All information about you will be anonymous. That means no-one will know it's you. Your information will be stored in a safe place for 10 years
	You do not have to take part in the research
  	A difficult part of the research is that some questions that Jo asks might make you feel sad, upset, or angry. If you feel upset or have problems after answering the questions, you should tell Jo, the nurse, or care staff on the unit. Staff can contact Jo on extension [redacted] and she will come and speak to you if you want her to.
	A good part of the research is that you can tell us what you think about your unit.

	The hospital can see if changes can be made to make the hospital nicer for patients.
	You can stop your questionnaire being used in the study, if you change your mind.
	After taking part in the study, you have **four weeks** to change your mind.
	To stop your questionnaire being used, contact Jo at the hospital on [redacted] or Professor Craig at [redacted]@[redacted].co.uk.
	After the research is finished Jo will write a report.
	A short version of this report will be given to you and explained to you by Jo.
	If you are happy to complete the questionnaire, please fill in the consent form.

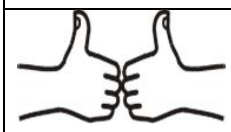
Appendix 13: Patient Consent Form

Consent Form

Title of research: Patient perceptions of social climate and staff views of working with intellectually developmentally disabled offenders: The influence on aggression in forensic mental health services.

Name of researcher: Joanne Robinson Please tick ✓

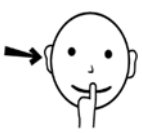
		Yes	No
	I understand the information sheet and have been able to ask questions about the research.		
	I understand that members of my care team (responsible clinician, nurses, and support workers) will know that I am taking part in the research.		
 	I understand that I do not have to take part in the research. I understand that I can stop my questionnaire being used in the research, if I change my mind.		

		Yes	No
  	I understand that I have **four weeks** after I complete the questionnaire to change my mind. I understand that if I do not want to take part in the research, I should contact Jo on [redacted] or Professor Craig on [redacted]. If I want to speak to someone who does not work at the hospital I understand that I can contact my advocate.		
	I agree to take part in the research.		

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

Appendix 14: Patient Debriefing Form

Patient Debriefing Form

	The research is a piece of work that helps us to learn about something. Jo is doing this research
	This research is looking at what you think about the unit that you live on.
	The questions asked about your thoughts about other patients, staff, and the unit.
	If you feel upset when answering the questions, you can talk to Jo straight away. You can also talk to Jo any time after you have answered the questions.
  	The research is confidential. This means no-one will see your answers or your questionnaire except Jo and her supervisor. Jo's supervisor is helping Jo with the research. All information about you will be anonymous. This means that no-one will know it's you. You do not have to take part in the research

	You can stop your questionnaire being used in the study, if you change your mind.
	You have **four weeks** after you complete the questionnaire to change your mind.
	If you want to stop your questionnaire being used in the study, contact Jo in psychology on [redacted] or Professor Craig at [redacted]@[redacted].co.uk

Appendix 15: Staff Recruitment Poster

Would you like to take part in a research study?

Jo Robinson is completing a project which explores patient views of their social environments, and staff views of working with intellectually developmentally disabled offenders.

Jo is looking for staff to either:

a) Attend a one-hour focus group to explore staff views of working with intellectually disabled offenders

b) Complete a questionnaire

c) Both of the above

Can you please let Jo know if you would like to take part and she can discuss this with you in more detail.

Thank you!

Jo Robinson

Psychology Team – extension [redacted]

Appendix 16: Staff Information Form

Participant Information sheet

Study title: Patient perceptions of social climate and staff views of working with intellectually developmentally disabled (IDD) offenders: The influence on aggression in forensic IDD services.

Invitation and Brief Summary

You are being invited to take part in a research study. This study forms part of Jo Robinson's (the researcher) thesis for her forensic psychology practice doctorate with the University of Birmingham.

This study explores the impact that patient views of their ward environment and staff views of working with IDD offenders have on in the frequency of aggressive incidents within forensic settings. Previous research has shown that environmental factors (e.g., the layout of the unit, how safe patients feel) can play a part in patient aggression, although there is a lack of research on this topic with individuals with IDD. One part of the study explores patient views of their unit environment and whether or not these have an influence on incidents of aggression. The other part of the project explores staff views of working with IDD offenders and examines whether or not these views have an influence on frequencies of patient aggression.

What would taking part involve?

Participants have a choice as to how they wish to participate in the project:

a) Take part in a one-hour audio-recorded focus group exploring staff views of working with IDD offenders;

b) Complete an 'Attitudes to IDD Offenders' questionnaire;

c) Participate in both of the above.

What are the possible benefits of taking part?

Your participation in this project will help to inform how clinical teams can work to create more effective therapeutic environments for patients, with the aim of reducing the frequency of patients' aggressive behaviours and increasing therapeutic outcomes. As well as benefits to the patients such a study may also benefit staff. The results might help to identify training needs within clinical teams; therefore, appropriate training would help staff to feel better equipped and more confident in their roles when working with IDD offenders.

What are the possible disadvantages and risks of taking part?

The focus groups and/or questionnaire may elicit some strong emotions relating to how participants feel about working with IDD offenders. Debriefing will be given and immediate

support provided by the researcher, if required. Subsequently, participants can contact the researcher if they have any further concerns.

Analysis of the data

The focus groups will be audio-recorded and subsequently transcribed by the researcher. The transcription will be analysed to look for any themes which arise from the discussions. These themes will be considered when exploring the frequency of patients' aggressive incidents. The questionnaire scores will be analysed to assess any links with the frequency of patients' aggressive behaviours.

Confidentiality

Confidentiality will apply to the discussions held within the focus groups and during completion of the questionnaires. However, if any information is disclosed which indicates that someone (i.e., staff or patient) may be at risk of harming themselves and/or others then this information will be passed onto the relevant Clinical Lead by the researcher.

Storage of data

Although your name will be on the consent form, a 'participant code' will be assigned to your questionnaire and/or the focus group transcript to maintain your anonymity. The consent form will be stored separately from the questionnaires and recordings to avoid any links with personal details and information gathered in the focus group. All hard copy data will be stored securely in locked filing cabinets. Any electronic data will be saved in password-protected documents where the password is only known by the researcher. The data will only be seen by the researcher and her supervisor Professor Leam Craig and, in some cases, the external markers of the thesis. Only blank versions of the questionnaires will be provided as an appendix in the final report and no identifying details of participants will be within the report. Should the study be published, participant confidentially and anonymity will be upheld in accordance with data protection. The data will be preserved and be accessible for ten years.

Withdrawal from the study

Participants can request to withdraw from the study, without reason and without it affecting their employment, up to **one month** from the date of completing the focus group and/or questionnaire. Participants should contact Jo Robinson on extension [redacted] or Professor Leam Craig at [redacted]@[redacted].co.uk. Any data already gathered will be destroyed securely (i.e., shredded) and will not be used in the final analysis.

Final report

Once the study is completed it will be written up into a report. If you would like a written summary of the report then please contact Jo Robinson on extension [redacted] and she will provide this to you.

Appendix 17: Staff Consent Form

Participant Identification Number:

CONSENT FORM

Title of Project: Patient perceptions of social climate and staff views of working with intellectually developmentally disabled offenders: The influence on aggression in forensic mental health services.

Name of Researcher: Joanne Robinson Please initial box

		YES	NO
1.	I confirm that I have read the information sheet dated..... (version.....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. I understand the nature of the research being conducted.		
2.	I understand that my participation is voluntary and that I am free to withdraw from the study up to one month from the date I participate without giving any reason, and without my employment being affected. I can do so by contacting the researcher or her supervisor. Any data already collected from me will be securely destroyed.		
3.	I understand that, if I take part in a focus group, this will be audio-recorded and transcribed. The researcher may use quotations from the transcription in the final report; however, any identifiable details will be altered to maintain anonymity.		
4.	I understand that the discussions during the focus groups will remain confidential; however, I am aware that if information is disclosed within the group which indicates that someone (i.e., staff or patient) may be at risk of harming themselves and/or others then this information will be passed onto the relevant Clinical Lead by the researcher.		
5.	I am aware that immediate support will be provided after the focus groups/questionnaire by the researcher if needed, and also if I have any concerns subsequent to participating in this study.		
6.	I understand that the information collected about me may be used to support other research in the future, and may be shared anonymously with other researchers.		
7.	I understand that the researcher may wish to publish this research, in which case my confidentiality and anonymity will be upheld in accordance with data protection.		

		YES	**NO**
8.	I agree to take part in the above study.		
9.	I agree to: take part in the one-hour focus group / complete the Attitudes to Intellectually Developmentally Disabled Offenders Questionnaire / participate in the one-hour focus group and complete the Attitudes to Intellectually Developmentally Disabled Offenders Questionnaire (please delete as appropriate)		

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

Appendix 18: Focus Group on Staff Views of Working with Intellectually Disabled Offenders

Questions

1. What brought you to working within your current role?
2. What do you enjoy about your role?
3. What is your understanding about social climate and aggression?
4. What made you decide to work with intellectually developmentally disabled offenders?
5. What do you like about working with intellectually developmentally disabled offenders?
6. What do you find difficult about working with intellectually developmentally disabled offenders?
7. What support do you feel you need when working with intellectually developmentally disabled offenders?
8. How would you describe the social climate/environment of the unit you work on?

Appendix 19: Staff Debriefing Form

Staff Debriefing form

The study

Part of the research project is exploring staff attitudes to intellectually disabled (IDD) offenders. The results of the focus groups and scores on the Attitudes to Intellectually Disabled Offenders questionnaires will be examined in conjunction with the frequency of aggressive incidents on the units to see whether or not there is an association.

Post-participation support

If the focus group and/or questionnaire have brought up difficult emotions then you can seek immediate support from the researcher, Jo, who is trained in delivering therapeutic interventions and can explore these with you further. If after speaking with Jo you feel that some further therapy might be beneficial then Jo will find out the details of local counselling/therapy services for you to contact.

If you do not feel able to talk to Jo straight after the focus group and/or completing the questionnaire then she is available on extension [redacted].

Confidentiality

This research project is confidential, which means that no one apart from Jo and her academic supervisor (Professor Leam Craig) will see your answers from the focus group and/or the questionnaire as each participant is given an anonymous code.

However, if you disclose anything to Jo which gives her reason to believe that either yourself or others may be at risk of harm then she will need to disclose this information to the relevant Clinical Lead.

Withdrawing from the study

You can withdraw from the study up to **one month** from the date that you completed the focus group and/or questionnaire. You do not have to give reasons for withdrawing. If you wish to withdraw then please contact Jo on extension [redacted] or Professor Leam Craig at [redacted]@[redacted].co.uk

Appendix 20: Systematic Literature Review Post-Print Version

Abstract

Social climate is a term used to describe the environment of a particular setting which may influence the moods and behaviors of the people inhabiting that setting. This review explores perceptions of social climate in secure forensic services and the associations with aggression. Article searches were conducted using electronic databases, hand-searching reference lists and contacting experts. Inclusion/exclusion criteria were applied to each study and quality screens conducted on the remaining articles to establish those for inclusion. A total of 7 studies were identified. Factors which were found to have an association with aggression included: patients' perceptions of safety, the level of cohesion between patients, the atmosphere of the environment, and an open group climate. It is argued that services which create positive social climates for both staff and patients are more likely to observe lower levels of aggression.

Key words: perception, social climate, aggression, forensic, mental health

Introduction

Violence within correctional and forensic healthcare settings is a significant problem in many countries. For example, there were 18,874 incidents of assault perpetrated in prison custody within England and Wales between September 2014 and September 2015 (Ministry of Justice, 2016), which was an increase of 19% compared to the previous year. Likewise, the Federal Bureau of Prisons' website indicates that there were approximately 2,872 lower level assaults perpetrated by inmates on other inmates and 300 serious incidents of inmate-on-inmate assault in their prisons in the United States between September 2014 and September 2015. These statistics are worrying given the range of negative consequences for victims, perpetrators and the wider organisation within which violence occurs. For the victim, the negative consequences can include physical injury and even death, as well as psychological effects (such as anxiety, sleep disturbance, fear, anger and resentment). For perpetrators, violent incidents can significantly disrupt their rehabilitation, potentially leading to seclusion, transfer to a new institution and even conviction/prosecution. They might also have psychological effects, such as guilt and shame. For the wider organisation, violence against staff and residents ultimately reduces the efficiency and effectiveness of rehabilitative efforts (Bowers et al., 2011). It is, therefore, important that research explore what factors impact on the perpetration of aggression in secure settings.

One such factor that has been suggested to impact on aggression within secure settings is the so-called 'social climate' of a given institution. Social climate is thought to be a multifactorial construct, consisting of a range of factors, including (but not limited to) how safe from the threat of aggression and violence residents and staff feel, how supportive of therapeutic gain and the physical/psychological needs of residents the unit is perceived to be, and the extent to which the unit is seen to provide the opportunity for learning new skills and

prosocial behavior (Tonkin, 2015). Thus, more broadly, social climate has been defined as the material, social, and emotional conditions of a given unit and the interaction between such factors (Schalast, Redies, Collins, Stacey, & Howells, 2008).

Theoretically, one might expect there to be a relationship between social climate and aggression, given that there are often many restrictions placed on individuals in secure forensic services (e.g., un/escorted leave, locked doors etc.). There are also a number of studies that demonstrate an empirical link between aggression and constructs typically measured by social climate questionnaires. Fluttert (2010), for example, found that the fostering of positive staff-patient relationships can influence the emotional stability of psychiatric patients. Likewise, Lanza et al.'s (1994) study highlighted that higher levels of staff involvement and patient autonomy were observed on the unit with the lowest frequencies of assaults. This indicates that greater levels of staff support, coupled with the encouragement of individuals to have more choice in their treatment help to minimise aggressive incidents. In secure services where clinical teams direct much of the day-to-day routines of individuals, giving them the opportunity to have more choice in their care may help to restore some feelings of control over their own lives. In further support of the hypothesized link between aggression and social climate, Meehan, McIntosh, and Bergen (2006) discovered that the environment, patient boredom, and poor quality staff-patient interactions can lead to aggressive behavior. If there are a lack of activities delivered by services with which to keep patients' interest on a daily basis then it is potentially more likely that this would generate frustration. If, when attempting to vent these feelings, patients are met with a (perceived) lack of empathy from staff then this may exacerbate their frustration. Relatedly, Papadopoulos, Bowers, Quirk, and Khanom (2012) found an association between negative staff attitudes and aggressive behaviors in patients. Indeed, underlying negative staff attitudes may (albeit unconsciously) affect the way in which staff interact with patients (e.g.,

responding bluntly) which could trigger incidents of aggression. Papadopoulos and colleagues recommend that reducing staff stress/burnout and increasing staff morale may decrease incidents of conflict; this finding is corroborated by Agerfold and Andersen (2006). Conversely, however, Bowers, Allan, Simpson, Jones, and Whittington (2009b) found no associations between staff morale and aggressive behaviors.

Social climate is not a newly created construct; indeed, there are several assessments which have been developed over many years that have aimed to measure social climate. One of the most used measures is the Ward Atmosphere Scale (WAS; Moos & Houts, 1968) which contains 100 items under 10 subscales of: Involvement, meaning the level of patient involvement in the running of the ward; Support, relating to the extent to which patients feel supported by staff; and Spontaneity, meaning the degree of patients' spontaneous behavior; Autonomy, meaning how much independence and responsibility patients are given; Practical Orientation, relating to how much patients are encouraged to develop practical skills which will help them re-integrate into the community; Personal Problem Orientation, referring to the extent to which patients are encouraged to understand their difficulties and emotions; and Anger/Aggression, meaning the extent of patients' angry and aggressive behaviors; and Order/Organisation, relating to how much emphasis is placed on the organisation; Programme Clarity, meaning the clarity of rules and regulations; and Staff Control, referring to the extent to which staff have to implement procedures in order to maintain control of the unit. Two more assessment, namely the Correctional Institutions Environment Scale (CIES; Moos & Schaefer, 1987) and Community-Oriented Programs Environment Scale (COPES; Moos, 1972) are both derived from the WAS. Given the wider socio-cultural changes, as well as those within secure services, which have occurred since the measure's inception, research indicates that the terminology contained within some of the items is now regarded as outdated (Røssberg & Friis, 2003). For example, items such as 'It is a good idea to let the doctor know

that he is the boss' and 'Patients can wear what they want' may have been culturally relevant when the measure was developed, but are not as applicable now. The Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008; Schalast & Tonkin, 2016) is a more recently developed measure which contains 17 items, comprising questions under each of the three subscales of: Therapeutic Hold, Patients' Cohesion and Mutual Support, and Experienced Safety. The EssenCES has been found to have good internal consistency and convergent validity with other social climate measures (e.g., Howells, et al., 2009; Schalast et al., 2008; Tonkin et al., 2012). Many secure services routinely use these measures to gather data on patient perceptions of social climate; however, it is unclear as to whether or not they use the measures to examine how such perceptions may impact upon patient behaviors and then further ascertain what changes could be made to the environment that might help to reduce challenging behaviors.

The main aim of this review is to examine the relationship between social climate and the occurrence of aggressive incidents in secure forensic service settings (i.e. prisons and forensic psychiatric hospitals). For the purposes of this review, the term 'aggressive' refers to verbal and physical aggression towards staff and/or peers, together with destruction to property and/or the environment[1].

When exploring management strategies for individuals presenting with aggression, clinical teams often focus on delivering interventions aimed at managing the individual (e.g., emotion regulation, anger management) and/or developing guidelines for staff in the form of behavioral support plans. However, it may be that more attention needs to be directed towards the external environment, including staff, and how they contribute to individuals'

[1] This definition of aggression has been used due to its use in other studies and publications (e.g., American Psychiatric Association, 1974; Bowers et al., 2011) and also because it is consistent with measures such as the Overt Aggression Scale (Yudofsky, Silver, Jackson, Endicott, & Williams, 1986) that are commonly used in research to operationalize aggression.

aggression. As such, this review of the literature aims to highlight any common themes with regards to aspects of the social climate in forensic settings which may contribute to aggressive behaviors. The results of the review may encourage organizations to evaluate the quality of the environment in which such individuals reside and might also include an examination of the performance of staff teams as there may be outstanding training/supervision needs that could be addressed. This is an issue that has never before been addressed despite the fact that numerous studies of social climate suggest that there is a relationship between climate and aggression, and the fact that validation studies often look for a relationship with aggression when seeking to validate social climate questionnaires. The current review, therefore, will synthesize and clarify the literature regarding this issue.

In addition, the social climate literature spans a number of years and is diverse in numerous ways, for example, different ways of measuring social climate, different countries sampled, and different populations studied (Tonkin, 2015). Such diversity and the fact that the literature is spread over time means that it is somewhat difficult for researchers and practitioners to get a coherent sense of what the literature is telling us. The current review will help to do this by synthesizing the literature on social climate in one place, which has never been done before. While previous reviews of social climate exist (e.g., Tonkin, 2015), they have tended to review a large range of issues, thus meaning that specific issues, such as the link between social climate and aggression, have not been explored in sufficient depth. The present study will attempt to overcome this limitation.

In terms of hypotheses, we would hypothesise there to be less aggression in settings where residents feel more emotionally, physically and therapeutically supported by staff and other residents, and where they feel safe and secure. Likewise, we would hypothesise there to be a negative correlation between aggression and settings where patients are supported to make decisions about their care, where they are encouraged to engage in activities designed to

improve their daily living skills, where they are assisted to understand more about their difficulties, and where the rules and routines of the environment are clear and consistent. We would expect to see a positive correlation between aggression and environments where more anger is observed and where staff are perceived as controlling.

Method

Literature searches were conducted using CINAHL, MEDLINE, PsychARTICLES, and PsychINFO (via Ovid) between the years 1990-2015 in order to identify potential studies. This date range was chosen with the aim of retrieving recent articles, but keeping the number of articles to a manageable amount. The searches were comprised of combinations of terms to describe: 1) perceptions (e.g., attitude, impression, opinion); 2) social climate (e.g., "institutional climate", "unit milieu", "ward atmosphere"); 3) aggression (e.g., "aggressive incident", "physical violence", "verbal hostility"); 4) forensic (e.g., offender, criminal, detainee); and 5) mental health (e.g., "medium secure unit", "psychiatric hospital", "secure ward"). A full electronic search for all of the electronic databases can be seen in Table 1.

Table 1.
Output from databases (Ovid), 22nd February 2015, (no. of hits in brackets)

	PsychINFO	CINAHL	MEDLINE	PsychARTICLES
1.	(view* or opinion* or feeling* or thought* or perceiv* or belie* or rate* or rating* or measure* or attitud* or percept* or viewpoint* or concept* or think* or knowledge* or impress* or sense* or awareness* or notion* or judgement* or judgment*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (2048333)	No hits	(view* or opinion* or feeling* or thought* or perceiv* or belie* or rate* or rating* or measure* or attitud* or percept* or viewpoint* or concept* or think* or knowledge* or impress* or sense* or awareness* or notion* or judgement* or judgment*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier] (5677372)	(view* or opinion* or feeling* or thought* or perceiv* or belie* or rate* or rating* or measure* or attitud* or percept* or viewpoint* or concept* or think* or knowledge* or impress* or sense* or awareness* or notion* or judgement* or judgment*).mp. [mp=title, abstract, full text, caption text] (149933)
2.	limit 1 to yr="1990 - 2015" (1635424)		limit 1 to yr="1990 - 2015" (4650393)	limit 1 to (yr="1990 - 2015" (91546)
3.	((social* or institut* or therapeutic* or organi?ation* or unit* or ward* or hospital* or facilit*) adj4 (climate* or cohesi* or risk* or safe* or ambi?n* or surround* or morale* or milieu* or atmospher* or support* or condition* or environment* or		((social* or institut* or therapeutic* or organi?ation* or unit* or ward* or hospital* or facilit*) adj4 (climate* or cohesi* or risk* or safe* or ambi?n* or surround* or morale* or milieu* or atmospher* or support* or condition* or environment* or	((social* or institut* or therapeutic* or organi?ation* or unit* or ward* or hospital* or facilit*) adj4 (climate* or cohesi* or risk* or safe* or ambi?n* or surround* or morale* or milieu* or atmospher* or support* or condition* or environment* or

	service*)).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (164482)	service*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier] (348351)	service*)).mp. [mp=title, abstract, full text, caption text] (51887)
4.	limit 3 to yr="1990 - 2015" (138772)	limit 3 to yr="1990 - 2015" (277734)	limit 3 to yr="1990 - 2015" (43677)
5.	(patient* violen* or patient* abuse* or peer* violen* or risk* behavio?r* or aggress* behavio?r* or aggress* inciden* or violen* behavio?r* or threat* behavio?r* or ((physical* or verbal*) adj4 (inciden* or violen* or threat* or disorder* or conflict* or disrupt* or abus* or aggress* or assault* or hostil* or bull* or attack* or rage* or anger* or angry* or riot* or fight*or victim*))).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (83021)	(patient* violen* or patient* abuse* or peer* violen* or risk* behavio?r* or aggress* behavio?r* or aggress* inciden* or violen* behavio?r* or threat* behavio?r* or ((physical* or verbal*) adj4 (inciden* or violen* or threat* or disorder* or conflict* or disrupt* or abus* or aggress* or assault* or hostil* or bull* or attack* or rage* or anger* or angry* or riot* or fight*or victim*))).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier] (44162)	(patient* violen* or patient* abuse* or peer* violen* or risk* behavio?r* or aggress* behavio?r* or aggress* inciden* or violen* behavio?r* or threat* behavio?r* or ((physical* or verbal*) adj4 (inciden* or violen* or threat* or disorder* or conflict* or disrupt* or abus* or aggress* or assault* or hostil* or bull* or attack* or rage* or anger* or angry* or riot* or fight*or victim*))).mp. [mp=title, abstract, full text, caption text] (16469)
6.	limit 5 to yr="1990 - 2015" (68768)	limit 5 to yr="1990 - 2015" (40526)	limit 5 to yr="1990 - 2015" (14405)

7.	(offen* or convict* or patient* or client* or crim* or delinquen* or incarcerat* or devian* or detain* or antisocial* or correctional* or forensic* or service* user*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (745190)	(offen* or convict* or patient* or client* or crim* or delinquen* or incarcerat* or devian* or detain* or antisocial* or correctional* or forensic* or service* user*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier] (5097697)	(offen* or convict* or patient* or client* or crim* or delinquen* or incarcerat* or devian* or detain* or antisocial* or correctional* or forensic* or service* user*).mp. [mp=title, abstract, full text, caption text] (62485)
8.	limit 7 to yr="1990 - 2015" (611255)	limit 7 to yr="1990 - 2015" (4135318)	limit 7 to yr="1990 - 2015" (47913)
9.	((mental* or secur* or mental* health* or psychiatr* or treatment* or low* secur* or medium* secur* or high* secur* or locked* rehab* or resident* care*) adj4 (hospital* or unit* or ward* or institut* or service* or clinic* or asylum* or sanatorium* or setting* or facilit* or state* hospital*)).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures] (148916)	((mental* or secur* or mental* health* or psychiatr* or treatment* or low* secur* or medium* secur* or high* secur* or locked* rehab* or resident* care*) adj4 (hospital* or unit* or ward* or institut* or service* or clinic* or asylum* or sanatorium* or setting* or facilit* or state* hospital*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier] (242321)	((mental* or secur* or mental* health* or psychiatr* or treatment* or low* secur* or medium* secur* or high* secur* or locked* rehab* or resident* care*) adj4 (hospital* or unit* or ward* or institut* or service* or clinic* or asylum* or sanatorium* or setting* or facilit* or state* hospital*)).mp. [mp=title, abstract, full text, caption text] (35826)

10.	limit 9 to yr="1990 - 2015" (115508)	limit 9 to yr="1990 - 2015" (186560)	limit 9 to yr="1990 - 2015" (28573)
11.	1 and 2 and 3 and 4 and 5 and 6 and 7 and 8 and 9 and 10 (278)	1 and 2 and 3 and 4 and 5 and 6 and 7 and 8 and 9 and 10 (213)	1 and 2 and 3 and 4 and 5 and 6 and 7 and 8 and 9 and 10 (3929)

The screening and selection of articles

The first author applied eligibility criteria to all studies identified by the above searches. Because the current review was not examining interventions or their effectiveness it was not deemed appropriate to solely use a Population, Intervention, Comparison, Outcome (PICO) framework for assessing the suitability of research articles. The Sample, Phenomenon of Interest, Design, Evaluation, Research type (SPIDER; Cooke, Smith, & Booth, 2012) was deemed more appropriate, therefore aspects of each framework which were considered

relevant to the subject area were used to screen articles. Studies were deemed eligible if: (a) participants had forensic histories; (b) the service setting was secure forensic (including prisons); (c) the study's focus was on perceptions of social climate; (d) the article had been published (e.g. peer-reviewed journals, books); and (e) the study was in the English language. Only quantitative papers were eligible for inclusion, meaning that only those studies which utilized quantitative measures of aggression were included. Studies were excluded if: (a) their participants were recruited from within psychiatric institutions where they had no forensic history; (b) they utilized subjects from intellectually developmentally disabled (IDD) populations due to the lack of validated social climate measures with this client group; and (c) they were unpublished papers (e.g. dissertations, theses), due to the absence of a formal peer review. Experts in the field of social climate were contacted to see whether or not they could provide any relevant papers; the eligibility criteria were applied to the papers that were provided.

Searches of the reference lists of the papers meeting the eligibility criteria were conducted and relevant papers were also screened using the above criteria. The first author then applied quality screens to the identified papers using tools from the Critical Appraisal Skills

Programme (CASP, 2013) website. CASP is part of 'Better Value Healthcare', a training organization which has developed workshops and tools for critical appraisal covering a wide range of research. Their website provides downloadable screening tools depending on the design of the study that individuals wish to quality screen (e.g., cohort, qualitative, case control). The first author also adapted one of CASP's quality screen tools using guidance from the literature (Von Elm et al., 2007) for those articles which utilized cross-sectional designs. CASP tools have been used in numerous systematic reviews on a variety of topics including those relating to the medical instruments (Beattie & Taylor, 2011) and the safety of certain spices during pregnancy (Ding, Leach, & Bradley, 2013). Studies which were scored as 75% and above were deemed of appropriate quality to be included in the review. By only including studies which met this minimum threshold, the resulting review and subsequent recommendations for future research and practice implications would be based upon the findings of high quality studies (Centre for Reviews and Dissemination, 2008). An independent rater applied quality screens to 100% (*n*=7) of the papers. The minimum quality screen score of 75% was assessed by both raters as being achieved by all seven of the double-screened papers, giving an agreeability rating of 100%.

Results

Once all of the searches had been conducted (see Figure 1) a total of 4,420 hits were returned. All duplicate references were removed (*n*=46). All titles and abstracts of the remaining research articles were screened and 4,349 were removed where it was evident that they did not meet the inclusion/exclusion criteria. Complete copies of the remaining articles (*n*=25) were then obtained and the inclusion/exclusion criteria applied, whereby 24 papers were excluded. A hand search of the reference list of the remaining paper was then conducted with a total of 20 additional papers being identified. However, nine studies were not conducted in forensic settings, six did not examine the links between social climate and aggression, two

studies collected data from IDD participants, and one study was qualitative. The inclusion/exclusion criteria were then applied to the articles obtained from experts in the field meaning that a further four papers were included. This left a total of 7 studies to be quality screened, all of which achieved the 75% rating required for inclusion in the current review.

Description of studies

The majority of studies recruited participants from multiple locations and some did not specify the level of security of the units. As such, studies obtained participants from one open unit, one minimum secure, three low secure, five medium, one intermediate, and one maximum secure unit. In addition, samples were also gathered from one 'forensic mental health unit and secure clinic', 17 'forensic psychiatric hospitals', and 11 'secure forensic services'. One study recruited participants from a prison population. The largest group of studies came from the United Kingdom (*n*=3), and there was one each from the United States of America, The Netherlands, Holland, and Germany. The majority of the studies utilized cross-sectional designs (*n*=5), with one using a longitudinal design and the remaining study using a cohort design.

There were 4 studies whose participants were both staff and patients/inmates and three studies with patient/inmate-only participants. Only one study provided a range of demographic data (i.e. age, gender, ethnicity, mental health diagnosis) and three studies did not include any such information. Using the information which was available, the age range of patient/inmate participants was 17-61 years; for staff participants this was 18-62 years. The majority of forensic psychiatric patients had a diagnosis of personality disorder. Staff participants worked within a range of disciplines including nursing, psychology, support work, psychiatry, and occupational therapy. A range of sample sizes were utilized; the smallest being 59 participants and the largest being 879 participants.

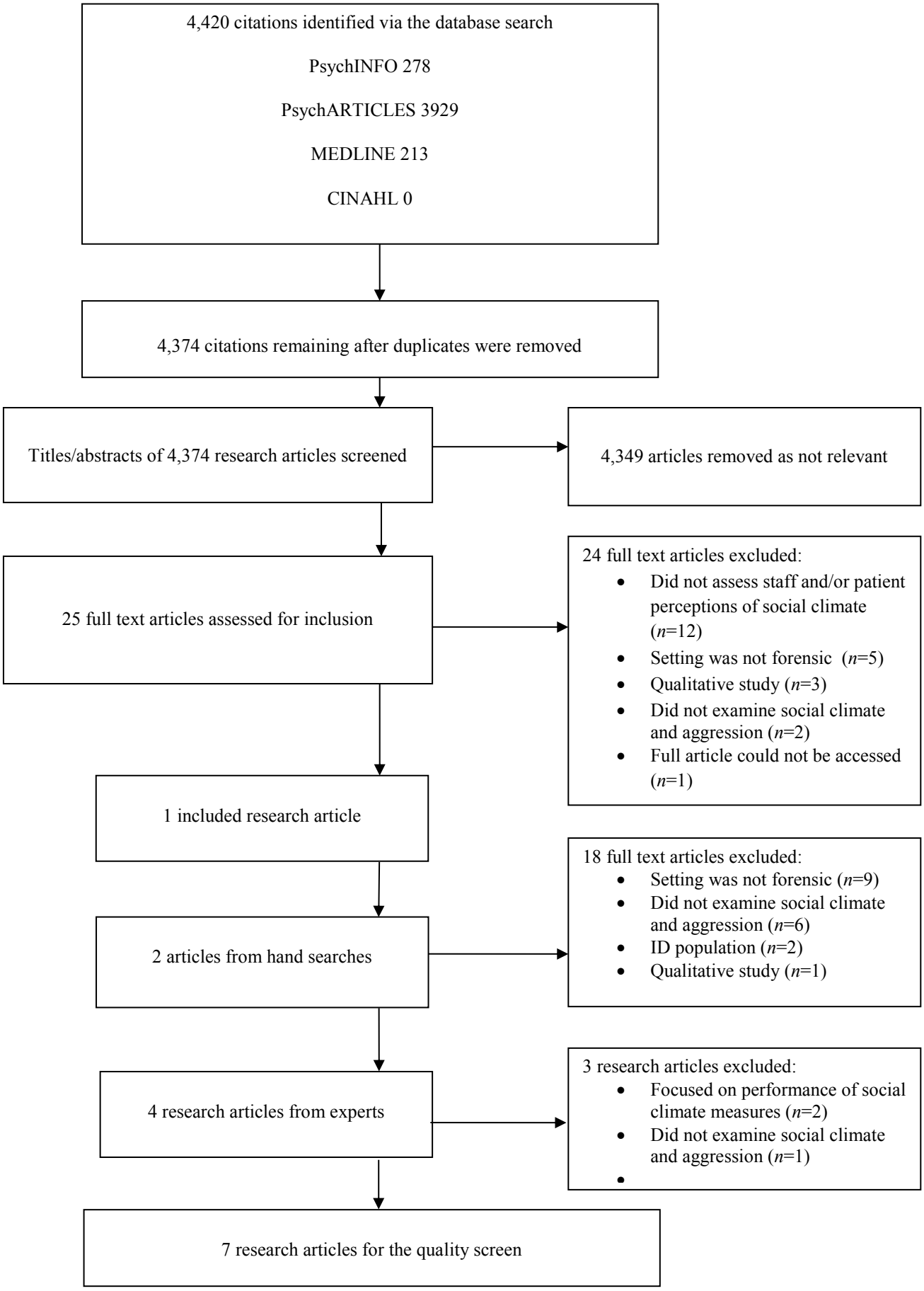


Figure 1. *Diagrammatical representation of the screening and selection process.*

The majority of studies (*n*=5) used the EssenCES as the measure of social climate. . One used the Prison Group Climate Inventory-Short Form which was derived on the original PGCI (van der Helm et al., 2011), and one study used the full PGCI assessment. Table 2 provides a list and summary of each study. In terms of how the studies measured aggression, four used the frequency of aggressive incidents, two used the Overt Aggression Scale (OAS; Yudofsky, Silver, Jackson, Endicott, & Williams, 1986), and one used the Buss Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957). The term 'aggression' was not defined in the majority of the studies, and some used different definitions. This lack of clarity is something that will be discussed later in the paper.

Narrative data synthesis and findings

As the included studies were comprised of a range of aims, research methodologies, and participants it was deemed appropriate to conduct a narrative data synthesis in order to extract key findings relating to each of the studies as opposed to carrying out a meta-analysis. This section will briefly outline the findings relating to perceptions of social climate and incidents of aggression.

Is there a relationship between ratings of social climate and aggression? Long et al. (2011a) found that the level of security (i.e. the number of restrictions within the environment) was positively linked to incidents of verbal abuse and aggression, where patients may often become frustrated with the restrictions placed upon them in higher security settings. Ros, van der Helm, Wissink, Stams, and Schaftenaar's (2013) results indicate that the more open the institutional climate, the lower the frequency of aggressive incidents. They categorize aggression with their study as: (1) arson; (2) threat, insult, and/or discrimination; (3) physical aggression against persons; (4) sexual intimidation; (5) suicide,

Table 2. ***Summary of the 7 included studies investigating social climate and its links to aggression***

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate and aggression used	Reliability & validity of social climate measure	Statistical findings re. the relationship between climate and aggression	Findings/ Conclusions	Quality assessment score
Dickens, G. L., Suesse, M., Snyman, P., & Picchioni, M. (2014). United Kingdom.	Aim: Explore whether and how patients' demographic and clinical characteristics are associated with ward climate. Design: Cross-sectional study.	28 male and 35 female patients. Unit split: open ward (*n*=3), low secure ward (*n*=39), and medium secure ward (*n*=21). Primary diagnoses: psychotic spectrum (*n*=32), personality disorder (*n*=22), developmental disorder (*n*=7), affective disorder (*n*=1), and anxiety disorder (*n*=1).	Open unit, low secure unit and medium secure unit.	Social climate: The Essen Climate Evaluation Schema (EssenCES). Aggression: The Overt Aggression Scale (OAS).	Previous research by Schalast et al. (2008) and Tonkin et al. (2012) has shown its validity and reliability.	The regression model for Patient Cohesion was R^2=.79; $F(7,55)$=29.476, p<.001. The coefficient for risk-related incidents was β = 0.005, p =>0.05 The regression model for Experienced Safety was R^2=.68; $F(7,55)$=16.611, p<.001. The coefficient for risk-related incidents was β = -.006, p =>0.05 The regression model for Therapeutic Hold was R^2=.32; $F(2,45)$=29.476, p<.001. No β coefficient was reported for risk-related incidents.	Findings: The weighted Overt Aggression Scale (OAS) scores did not significantly predict Experienced Safety or Patient Cohesion. Conclusion/s: There are complex interactions between aggression, gender, diagnosis, and ethnicity. The authors controlling for level of security may have obscured the effect of risk-related incidents.	15/16 (94%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate and aggression used	Reliability & validity of social climate measure	Statistical findings re. the relationship between climate and aggression	Findings/ Conclusions	Quality assessment score
Eggert, J. E., Kelly, S. P., Margiotta, D. T., Hegvik, D. K., Vaher, K. A., & Kaya, R. T. (2014). USA.	Aim: To examine the effect of the environmental design of a new secure forensic hospital on ward climate, safety, job satisfaction, and treatment outcomes. Design: Cohort study.	A total of 526 patients and 353 staff split across medium secure, maximum secure, intermediate, and minimum secure units. Staff included nursing, psychiatry, psychology, social work, occupational therapy. No patient characteristics were given.	Secure forensic psychiatric facility - medium secure unit, maximum security unit, intermediate unit and minimum secure unit.	Social climate: The Essen Climate Evaluation Schema (EssenCES). Aggression: Frequency of aggressive incidents.	Previous research by Schalast et al. (2008) and Tonkin et al. (2012) has shown its validity and reliability.	There was a negative correlation found between Patient Cohesion, patient assaults (r=-.27, p=>.05), and seclusion episodes (r=-.27, p=>.05) and a positive correlation with staff assaults (r=.20, p>.05). There were positive correlations found between Experienced Safety staff assaults (r=.09, p=>.05) and seclusion episodes (r=.22, p=>.05). A positive correlation was found with patient assaults (r=.54, p=>.05). Therapeutic Hold had a negative correlation with patient assaults (r=-.46, p=>.05) and staff assaults (r=-.42, p=>.05), and a negative correlation with seclusion episodes (r=-.61, p=>.05).	Findings: There was no significant correlation found between the numbers of assaults, episodes of seclusion and restraints, and the EssenCES subscales. Conclusion/s: The EssenCES subscales were only weakly related to actual safety as measured by the number of assaults, seclusion episodes and restraints. Staff and patients' habituation to the environment may have influenced perceptions of safety over time.	18/24 (75%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate and aggression used	Reliability & validity of social climate measure	Statistical findings re. the relationship between climate and aggression	Findings/ Conclusions	Quality assessment score
Long, C. C., Anagnostakis, K., Fox, E., Silaule, P., Somers, J., West, R., & Webster, A. (2011a). United Kingdom.	Aim: To assess social climate in women's secure units and its variation by security level, type of ward, therapeutic alliance, patient motivation, treatment engagement, and disturbed behavior. Design: Cross-sectional study.	A total of 80 staff members. Age range 18-62 years (*M*=34.6). A total of 65 patients. Age range 18-61 years (*M*=32.5). 93% were White British and 895 were single. Primary diagnoses were personality disorder (*n*=36), schizophrenia/schizoaffective disorder (*n*=16), the remainder had a diagnosis that included bipolar and affective disorders, substance dependency and PTSD.	Two low secure and two medium secure units within a secure hospital.	Social climate: The Essen Climate Evaluation Schema (EssenCES). Aggression: The Overt Aggression Scale (OAS).	Previous research by Schalast et al. (2008) and Tonkin et al. (2012) has shown its validity and reliability.	EssenCES total score significantly correlated to the number of risk behaviors on the unit (r_s = 0.29, p <.01). Risk behaviors had the same positive correlation with both Experienced Safety and Patient Cohesion (r=0.27, p=<0.01). Therapeutic Hold had a positive correlation with risk behaviors (r=0.09, p=>0.05).	Findings: The level of disturbance differed significantly between low and medium secure units according to the total number of OAS risk behaviors. Conclusion/s: Differences in EssenCES scores along women's pathway of security, associated with lower levels of disturbed behavior, may indicate the potential value of the instrument in measuring progress in forensic mental health environments.	13/16 (81%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate and aggression used	Reliability & validity of social climate measure	Statistical findings re. the relationship between climate and aggression	Findings/ Conclusions	Quality assessment score
Ros, N., van der Helm, P., Wissink, I., Stams, G-J., & Schaftenaar, P. (2013). The Netherlands.	Aim: To examine the relationship between institutional climate and aggressive incidents. Design: Longitudinal.	A total of 72 patients, mean age 36.7 years.	Forensic mental health unit and a secure clinic for prolonged intensive care.	Social climate: Prison Group Climate Inventory-Short Form (PGCI-SF). Aggression: Frequency of aggressive incidents.	The PGCI is a validated instrument; however, the PGCI-SF which was derived from the former has not yet been validated. The reliability of the PGCI-SF scales was good for support (α = .865, $\lambda 2$ = .877), growth (α = .867, $\lambda 2$ = .870), and atmosphere (α = .846, $\lambda 2$ = .853), and sufficient for repression (α = .606, $\lambda 2$ = .612).	Negative associations were found between open group climate and aggression during T1 and T2 (r=-.256, p<.05). Support and atmosphere at T1 were negatively associated with aggressive incidents in T1-T2 (r=-.252, p<.05). A negative association was found between open institutional climate at T2 and aggressive incidents during T2-T3 (r=-.236, p=<.05) Atmosphere at T2 was negatively associated with aggressive incidents during T2-T3 (r=-.245, p=<.05). Structural Equation Modelling showed that the relation between growth and aggressive incidents at T1 was mediated by support (Indirect effect = .016, SE=.94, p=.00).	Findings: The more open the institutional climate, the lower the number of aggressive incidents. Increased staff support and atmosphere were linked to lower levels of aggressive behavior. Conclusion/s: Establishing and maintaining a more open institutional climate may help to reduce aggressive incidents.	13/16 (81%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate and aggression used	Reliability & validity of social climate measure	Statistical findings re. the relationship between climate and aggression	Findings/ Conclusions	Quality assessment score
Schalast, N., Redies, M., Collins, M., Stacey, J., & Howells, K. (2008). Germany.	Aim: To validate the Essen Climate Evaluation Schema (EssenCES) which had been designed for assessing forensic psychiatric wards. Design: Cross-sectional study.	333 staff members. 327 patients (315 male)	17 forensic psychiatric hospitals, comprising 46 wards.	Social climate: The Essen Climate Evaluation Schema (EssenCES). Aggression: Frequency of 'problematic events'.	Previous research by Schalast et al. (2008) and Tonkin et al. (2012) has shown its validity and reliability.	The number of problematic occurrences had a negative correlation with patients' assessments of the Safety scale (r=-0.26, p=<0.05), and a negative correlation with staff's assessments of the same scale (r=-0.62, p=<0.01). The correlations with problematic occurrences and the Therapeutic Hold and Patients' Cohesion scales were below the reporting cut-off of 0.25.	Findings: Patients and staff perceived the unit as more safe when the frequency of problematic occurrences was lower. Conclusions: Using the EssenCES to monitor the social climate over a long period of time might help to identify problems within the environment.	14/16 (88%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate and aggression used	Reliability & validity of social climate measure	Statistical findings re. the relationship between climate and aggression	Findings/ Conclusions	Quality assessment score
Tonkin, M., Howells, K., Ferguson, E., Clark, A., Newberry, M., & Schalast N. (2012). United Kingdom.	Aim: To examine the construct validity of the English Essen Climate Evaluation Schema (EssenCES). Design: Cross-sectional study.	714 participants comprised of staff, patients, and prisoners.	11 secure forensic services.	Social climate: The Essen Climate Evaluation Schema (EssenCES). Aggression: Frequency of aggressive incidents.	Cronbach's α for the EssenCES was in the range of 0.77-0.92 for service settings and 0.72-0.92 for participant type.	Higher levels of ward aggression were associated with lower scores on the Patient Cohesion (γ_{01}= –0.11, p<.01) and Experienced Safety scales (γ_{01}= –0.11, p<.05). There was no significant effect for Therapeutic Hold (γ_{01} =0.03, p=.44).	Findings: On wards where there was a high level of aggression both staff and residents tended to feel less safe, and residents were seen to be less cohesive and less supportive of one another. Conclusions: The EssenCES requires further validation within low-security settings, juvenile units, and female services.	15/16 (94%)

Author(s), year, & country	Aims of the study, and design	Sample characteristics	Service setting	Measure of social climate and aggression used	Reliability & validity of social climate measure	Statistical findings re. the relationship between climate and aggression	Findings/ Conclusions	Quality assessment score
Van der Helm, G. H. P., Stams, G. J. J. M., van Genabeek, M., & van der Laan, P. H. (2012). Holland.	Aim: To investigate how inmates' personality and living group climate contributed to aggression. Design: Cross-sectional study.	59 male adolescent inmates. Mean age = 17.4 years.	Youth prison.	Social climate: The Prison Group Climate Inventory (PGCI). Aggression: Buss Durkee Hostility Inventory (BDHI).	Reliability of both scales within the PGCI was good (open climate α = .87; repression, α = .77).	Open climate was found to have a negative correlation with direct aggression (r=-0.30, p<.05). Repressive/closed group climate was also found to have a negative correlation with direct aggression (r=-0.14, p>.05). The relation between open group climate and aggression was mediated by low neuroticism (Standardized indirect effect =.21; SE=0.053, p<0.05). Other mediation tests did not yield significant effects, The relation between group climate and aggression was not mediated by agreeableness, and the relation between repressive group climate aggression was not mediated by low neuroticism.	Findings: There was no direct effect of repressive group climate on aggression. There was a relationship between open group climate and aggression which was fully mediated by low neuroticism. Conclusion/s: Dispositional and situational models should be examined in order to understand young inmates' aggression. It is possible that repression does not add, or hardly adds, to juvenile delinquents' personality problems and aggression, as repression could be a continuation of prior negative experiences.	15/16 (94%)

attempt to suicide, or auto-mutilation, and (6) destruction and/or damage of the building, interior or materials. Similarly to other studies, higher ratings of staff support and patients' perceptions of their potential for growth and learning were significantly linked to lower levels of aggressive behavior. Interestingly, Ros and colleagues found no association between a repressive ward climate and incidents of aggression. They propose that such an environment may reflect prior negative experiences to which the patient has become accustomed, which therefore has a limited impact upon their aggressive behaviors.

Van der Helm, Stams, van Genabeek, and van der Laan (2012) also gathered their data from within a prison, but from juvenile offenders; they investigated how inmates' personalities and the group climate contributed to aggression. Their study corroborated the findings of Ros et al.'s (2013) study in that they found an open climate to be negatively associated with aggression; they propose that such a climate increases the number of positive interactions for the inmates. In addition, they discovered no link between a repressive group climate and aggression. van der Helm and colleagues also suggest that the juveniles' personalities, and levels of aggression, might be influenced by the group climate.

Although social climate and aggression was not the focus of their study, Tonkin et al. (2012) found that higher levels of ward aggression were associated with lower scores on the Patient Cohesion and Mutual Support dimension of the EssenCES. This is not surprising given that other studies have indicated the importance of relationships and their role in mediating aggression. In addition, the study found that staff and patients felt less safe on wards where there were higher levels of aggression, and patients and were seen to be less supportive of each other on such units. These findings suggest a circular relationship between patient cohesion/support and aggression. Tonkin and colleagues also discovered the higher security settings to have a more negative impact on patient cohesion/supportiveness and that patients

felt less safe in such services. This corroborates the findings of other studies in this review where security levels influenced the number of aggressive incidents (e.g., Long et al., 2011a). Schalast et al. (2008) also found that lower ratings of Experienced Safety on the EssenCES were linked to higher 'problematic events' although there was no elaboration regarding the meaning of this phrase. Contrary to the above findings which indicate an association between social climate and aggression, Dickens et al. (2014) found that participants' scores on the OAS did not significantly predict ratings of Experienced Safety or Patient Cohesion on the EssenCES. Also, Eggert et al. (2014) reported no changes in the frequency of patient-to-patient or patient-to-staff assaults, further to participants moving to a new forensic environment.

Discussion

The results of the studies in this review show some indications that perceptions of social climate are associated with aggression. The more open the institutional climate, the level of patient cohesion, patients/inmates feelings of safety, and atmosphere of the environment were some of the factors found to be associated with increased levels of aggression. However, in other studies there was no association found regarding the environment and aggressive incidents nor in relation to scores on the OAS. The reasons for these discrepancies might be related to the fact that the studies were conducted in different settings, with differing populations, and the use of different social climate questionnaires and measures of aggression. As such, a greater number of studies with comparable variables is needed in order to more accurately assess the associations between social climate and aggression.

When attempting to manage individuals with aggressive behaviors, clinical teams often focus on helping the person to develop skills in managing their emotions more effectively and/or produce guidelines for staff to follow (e.g., in the form of behavioral support plans) in order

to manage the person's behaviors. As such, the focus is very much on how to try and change and/or manage the particular individual; however, the findings from this review suggest that more attention needs to be directed to how the external environment, including the people involved in the person's treatment, may play a part in their aggression. Therefore organizations also need to be establishing how the environment and team surrounding the individual contributes to a person's aggression and how these aspects could be improved in order to help in the reduction of such behaviors.

Strengths and weaknesses of the review

Perhaps one of the most salient weaknesses of the current review is that none of the articles explicitly defined social climate in terms of the aspects that they were measuring as part of their studies. In fact, the authors of the articles appear to have been guided more by the factors measured by the social climate assessments rather than having a pre-defined concept of social climate which they wanted to examine. As such, it is likely that some, if not all, of the studies will have worked from different definitions of social climate, making it difficult to compare their results. Therefore, it would appear that in order to bring some clarity to the field a 'universal' definition of social climate may be required. However, this universal definition may cause issues with regards to existing social climate measures, not all of which measure the same constructs.

Most of the studies used a cross-sectional design which only gathers data from one period of time; thus, no evidence can be gathered as to the temporal relationships between cause and effect (Carlson & Morrison, 2009), for example, between social climate and aggression. As such, further studies would benefit from utilizing longitudinal designs where causality is more likely to be established. Indeed, many organizations routinely collect social climate and incident data at regular intervals over extended periods of time and it might therefore be

possible to use these data in future research. In addition, studies could also measure social climate prior and subsequent to certain interventions being implemented (e.g., staff training, changes to the ward environment) to assess the impact of the interventions. Qualitative studies would also be a useful way of gathering information relating to patient and staff members' experiences of social climate, for example, via separate focus groups for staff and patients. Whilst such studies cannot identify cause and effect, they can elicit richer information by exploring individuals' perceptions of social climate in greater depth.

Very few of the studies in the review confirmed how aggression was operationalized and measured. Ros et al. (2013) categorize aggression with their study as: (1) arson; (2) threat, insult, and/or discrimination; (3) physical aggression against persons; (4) sexual intimidation; (5) suicide, attempt to suicide, or auto-mutilation, and (6) destruction and/or damage of the building, interior or materials. No other studies gave definitions, making it difficult to know whether or not they were measuring the same constructs of aggressive behaviors. Furthermore, while some studies recorded the frequency of aggressive incidents, Van der Helm et al. (2012) used the BDHI (Buss & Durkee, 1957) which is a questionnaire-based assessment. Also, the studies conducted by Dickens et al. (2014) and Long et al. (2011a) used the OAS (Yudofsky et al., 1986) which are behavioral measures. Consequently, the construct of aggression has been utilized in a number of different ways in the literature, which clearly complicates the issue of synthesising the literature and drawing generalizable conclusions.

The included studies were conducted with participants within non-Intellectual Developmental Disability (IDD) settings indicating an underrepresentation of participants from the IDD population. Whilst a few social climate studies have been conducted with this client group, it was unknown whether or not social climate affects individuals with IDD in similar ways to the general forensic population and so it would have been difficult to draw comparisons between individuals with IDD and the participants in the other studies in this review. As

such, future research into social climate would also benefit from gathering data from staff and patients within the IDD population as well as adapting social climate measures for this client group to ensure the reliability and validity of such instruments. In addition, there were few identified studies which were conducted with prison populations; a greater number of studies examining this client group and the environment in which they reside may have brought more diverse information to the review.

Unpublished studies were excluded from the review which will have introduced publication bias. Despite this, hand searches of all relevant articles were conducted as well as contacting experts in the field of study which should mean that most of the relevant research articles were included. Six papers identified through the hand searches could not be obtained; some may have been of sufficient quality to add to the current review thereby bringing additional information to the data synthesis. The contacting of experts will also have brought some selection bias into the review; however, this method may also highlight studies which have been accepted for publication but have not yet been published (Torgerson, 2003) as occurred in the current review. The strengths of the review are that a robust search strategy was employed, and that a second rater quality screened a proportion of the research articles.

Implications for practice and future direction

Social climate has an important influence on levels of aggression in secure forensic settings. Services therefore need to not only focus on how specific individuals can be managed, but also explore ways in which any issues 'outside' of the individual (e.g., the physical environment, its management, and staffing) can be addressed in order to reduce the frequency of aggressive incidents. As part of this, organizations have a responsibility to ensure that staff are working within a supportive environment as negative staff attitudes/issues of burnout can impact upon the way in which they interact with patients and potentially contribute to

incidents of aggression (Agerfold & Andersen, 2006; Papadopoulos et al., 2012). As such, staff should have access to regular supervision in order to have a forum in which they can reflect on their practice and/or highlight any organizational issues which might need to be addressed. Staff should also be encouraged to identify any additional training and/or support needs and for the organization to try and meet these needs as best as possible. Such training and support may help staff to feel more valued by the organization, develop their self-confidence in dealing with challenging individuals, and promote consistent working practices. In turn, these changes might help to improve staff members' relationships with clients as well as the level of efficiency in the running of the unit, thereby reducing incidents of aggression.

Staff also need to be aware that many of the individuals with whom they work have significant histories of trauma and abuse. Trauma-informed care is reported to incorporate three key elements: 1) recognising the prevalence of trauma in individuals; 2) acknowledging how trauma impacts upon all of the people who form a part of the organization/environment; and 3) responding to such information by putting relevant policies and procedures in place (Substance Abuse and Mental Health Services Administration, 2014). Indeed, one study indicates that of the prisoners who reported being abused as children (which was 29% of the sample), 62% experienced emotional abuse, 61% physical abuse, and 31% sexual abuse. In addition 41% of inmates reported witnessing violence in the home as children (Williams, Papadopoulou, & Booth, 2012). As such, staff should be aware of how their behavior towards such individuals, as well as the therapeutic environment, can impact upon the people with whom they work. If individuals reside within an environment with a negative social climate – which is associated with higher levels of aggression – this might exacerbate existing traumas or even generate new ones.

A more recent initiative which focuses on the quality of the environment in which staff and patients/inmates reside is that of Psychologically Informed Planned Environments (PIPEs). The staff working within PIPEs receive specialist training to develop a more psychological appreciation of their work which enables them to contribute to a safer and more supportive environment for all concerned. There is also a focus on the quality of relationships and interactions between staff and inmates, which has been found to contribute to a positive social climate. PIPEs were designed to support offenders within the personality disorder pathway to progress through their treatment in a way which prepared them to move through each stage (Bennett, 2014; Brown, 2014). Some individuals may experience difficulties or set-backs when they are ready to move through the treatment pathway and the PIPEs model was designed to ease these transitions (Turley, Payne, & Webster, 2013). It is clear that PIPEs focus heavily on ensuring that the environment – which includes the interactions between the people within that environment – is one which enables individuals to progress through treatment and gain the most benefit from residing within such a setting. Indeed, an internal publication for the National Health Service (NHS) and National Offender Management Service (NOMS) by Shearman (2013) evaluated the social climate of a unit using the EssenCES prior to and after a PIPE model was implemented. The results indicated that the unit was perceived as significantly more safe and supportive after the PIPE model had been introduced (as cited in Prison Service Journal, March 2015). In addition, a study conducted by Turley et al. (2013) found improved relationships between offenders' relationships with other offenders and staff. Offenders were observed to generally become more supportive of one another as well as more sociable. Staff also reported lower levels of bullying on PIPE units than on other wings of the prison. However, the research found that some relationships were not always safe or supportive; there were reports of some offenders threatening violence or being violent towards other offenders. As we have already seen,

supportive relationships can contribute to lower levels of aggression, but Turley et al. (2013) note that despite PIPEs having the potential to change offenders' behaviour the extent to which this may occur is still unclear. Therefore, further evaluations of PIPEs would be beneficial to assess whether or not the model is effective enough in minimising aggression in order that it can be implemented in other settings.

In linking with the above, the review also highlights the need for organizations to assess the environment in which their clients reside. Of course, there may be aspects about the environment which cause clients frustration which cannot be changed (e.g., level of security, and the restrictions placed upon clients who are on a section). It is therefore important to focus on those factors which can be altered if it is believed that they will be beneficial to the social climate of the environment. Organizations could review whether or not the layout of the environment is conducive to the safety and mental wellbeing of clients (and staff); for example, is the space sufficient that clients can be observed by staff, but are also afforded some privacy? Is the environment overly 'clinical' and could it be made more 'homely'? Such information could be gathered from both clients and staff by way of social climate measures.

Further work also needs to be completed to assess the reliability and validity of social climate measures. Revision of the WAS has already been recommended (Røssberg & Friis, 2003) and its applicability across settings and client groups requires further investigation. Given that the EssenCES is a relatively short measure to administer, this might be more appropriate to use with IDD populations; however, it also requires validation with this patient group and is yet to be validated in low secure settings, women's services, and young offender institutions.

The review has clarified the importance of the social climate in secure forensic service settings and is something which organizations should be regularly monitoring for the benefit

of both patients and staff. There have been issues highlighted regarding how social climate and aggression have been operationalized in the studies. Indeed, future studies would benefit from defining these constructs more clearly for the benefit of readers and fellow researchers. Nonetheless, taking the results of the studies within the current review into account, services that create positive social climates for both staff and patients are more likely to see lower levels of aggression.

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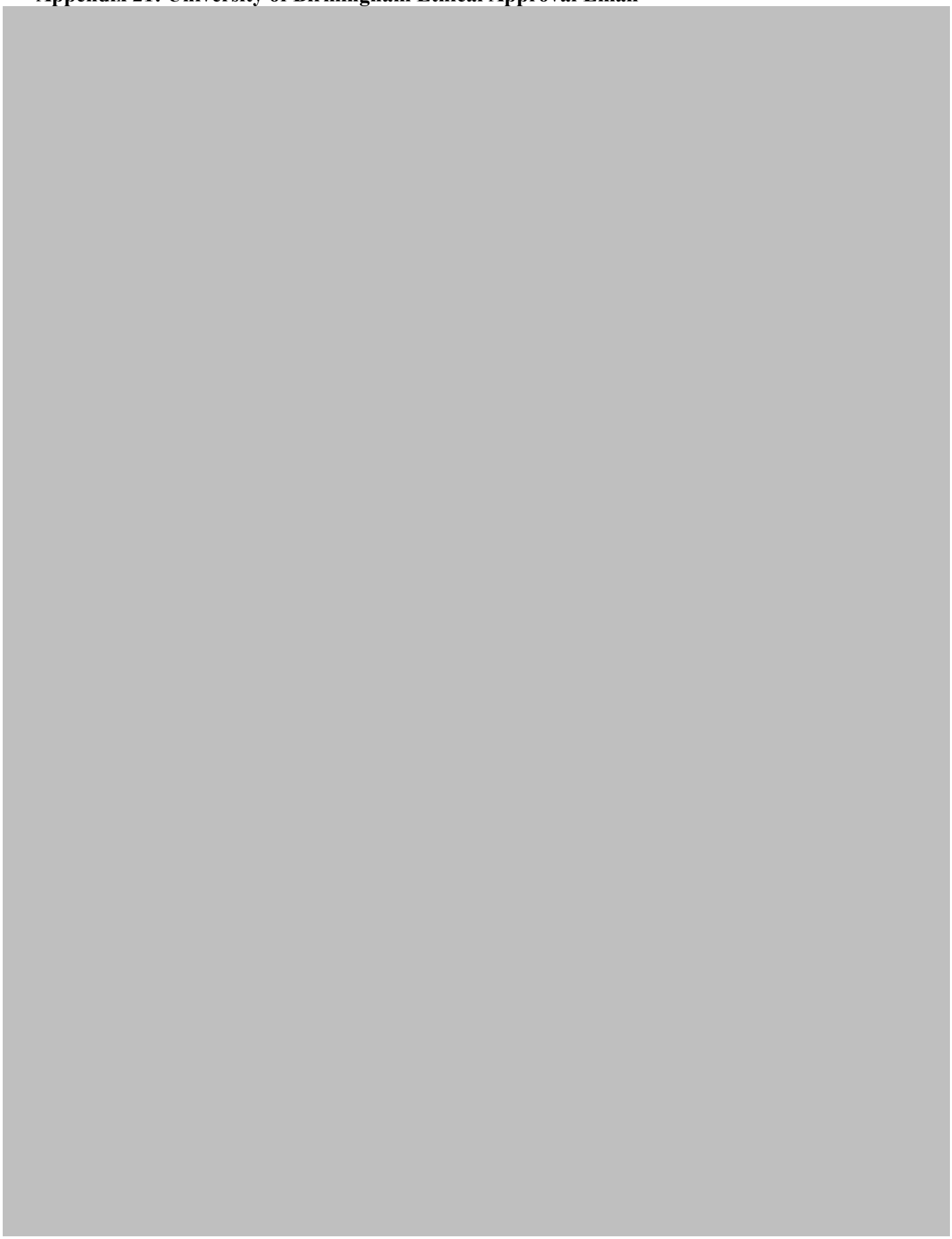
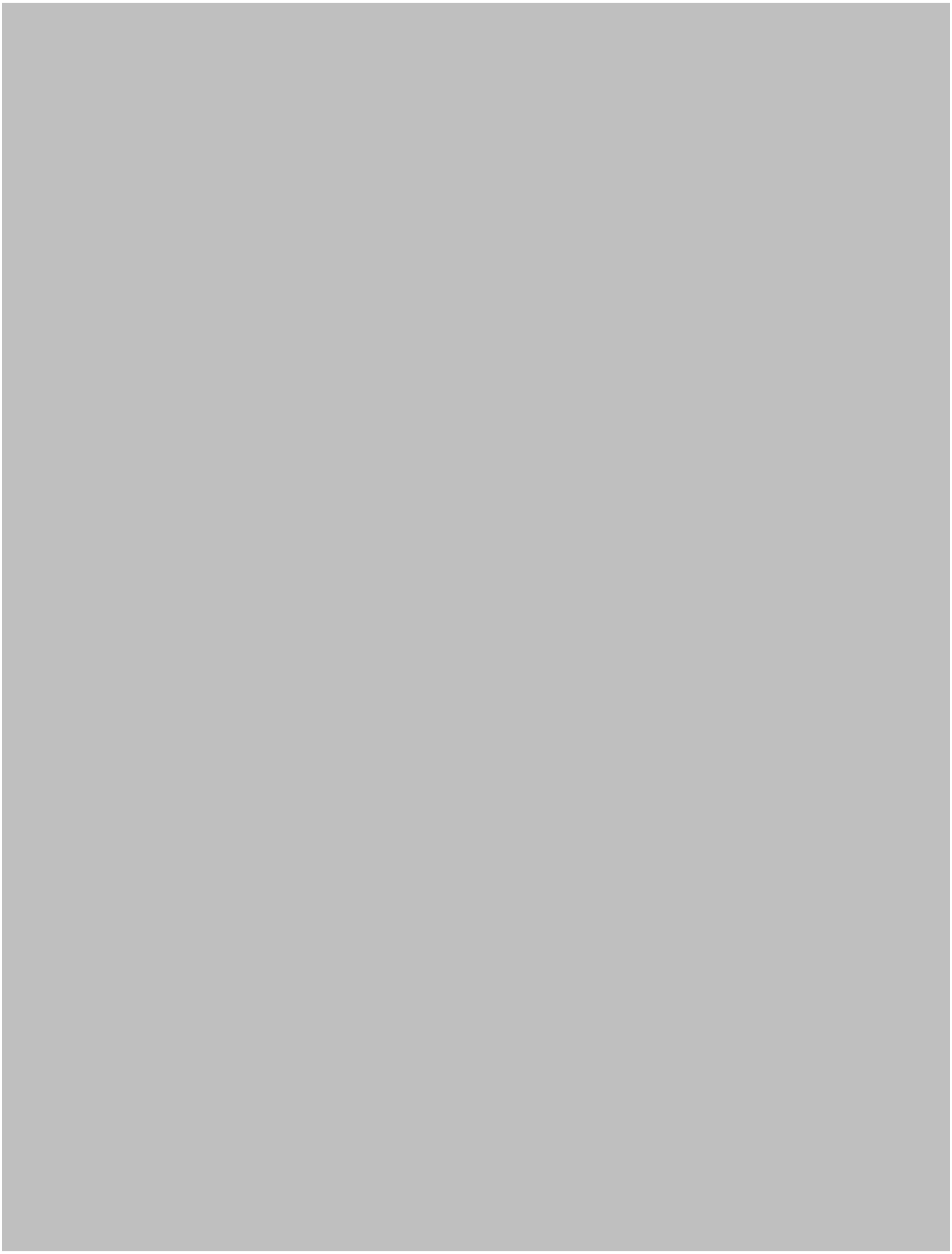
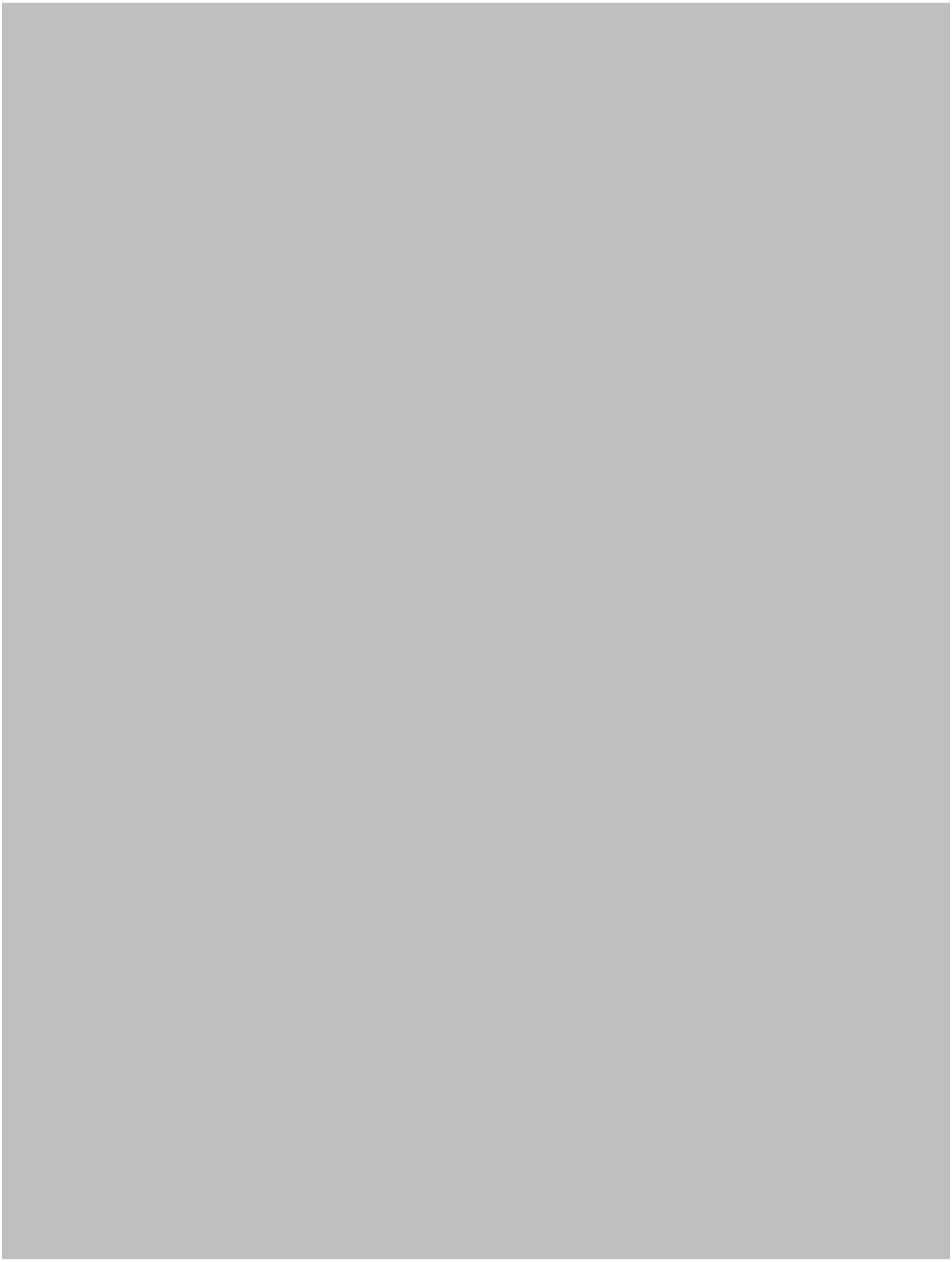
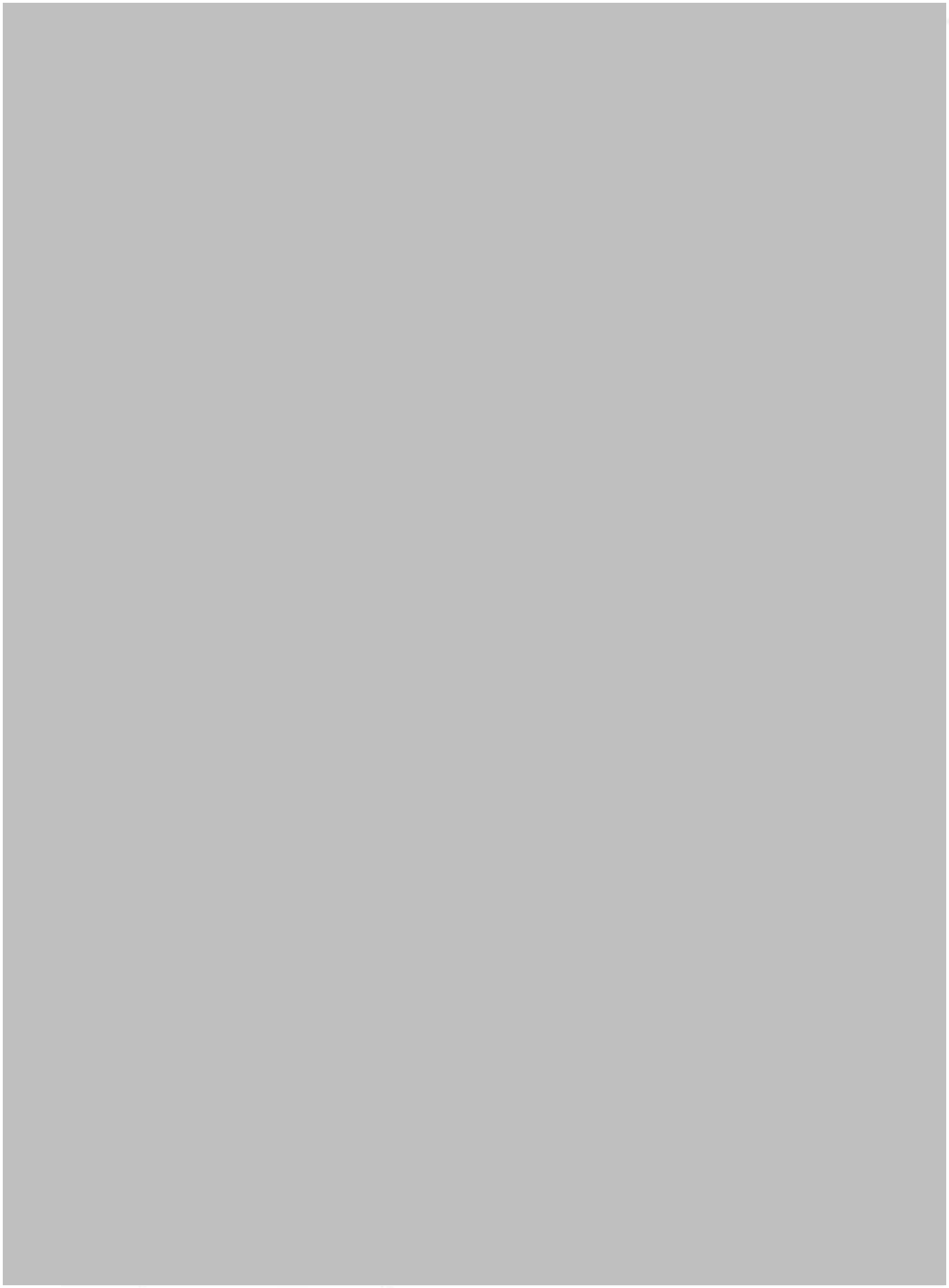
Appendix 21: University of Birmingham Ethical Approval Email



Appendix 22: Approval from the Independent Provider







Appendix 23: Ethical Approval From The Edgbaston Research Ethics Committee